



# KAHO`OLAWA ISLAND:

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## Restoring a Cultural Treasure

Final Report of the Kaho`olawe Island  
Conveyance Commission to the  
Congress of the United States

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March 31, 1993

CU-KICC-93

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### Cover and Title Page

Hardy Spoehr

### Executive Summary

The photographs in the Executive Summary are intended to provide an impression of some of the people, landscapes, and environmental problems of Kaho`olawe Island.

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March 31, 1993

The Honorable Albert Gore, Jr.  
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United States Senate  
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The Honorable Thomas S. Foley  
Speaker of the House  
United States House of Representatives  
Washington, D.C. 20515

Gentlemen:

It is with great pleasure that the Kaho'olawe Island Conveyance Commission submits its final report to the United States Congress pursuant to the requirements of Public Law 101-511. The report represents more than two years of intensive work and embodies the collective work and thoughts of hundreds of people from throughout the State of Hawai'i and the world beyond Hawai'i's shores.

The work of the Commission began on December 17, 1990. Each member has worked diligently to ensure that this report provides a blueprint for Congressional action as it relates to the Hawaiian island of Kaho'olawe. The Commission extends special thanks to the Secretary of the Navy and the Commander in Chief, U.S. Pacific Command, the Governor of the State of Hawai'i and his offices, the Mayor of the County of Maui and her offices, the Office of Hawaiian Affairs, and members of the Protect Kaho'olawe 'Ohana for their support and interest in the work of the Commission. Each member of the Commission expresses appreciation for the opportunity to participate in this important work.

Respectfully submitted,

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## Preface

**O**n October 22, 1990, President George Bush issued a memorandum to the Secretary of Defense directing the Secretary to immediately “discontinue use of Kaho`olawe as a weapons range” (Appendix 2). In November 1990, the United States Congress established the Kaho`olawe Island Conveyance Commission (KICC) (Public Law 101-511). Members of the Commission were appointed by the Governor of the State of Hawai`i, the Secretary of the U.S. Navy, and the Administrator of the State of Hawai`i’s Office of Hawaiian Affairs. When first established, KICC was to complete its work by December 17, 1992; on October 6, 1992, however, the Congress, in Public Law 102-396, extended the life of KICC to September 30, 1993 (Appendix 5).

The five principal duties and responsibilities of KICC, as set forth in Public Law 101-511, incorporating by reference the provisions of Senate Bill 3088, included:

- Identifying the terms and conditions for the return of Kaho`olawe to the State of Hawai`i;
- Identifying portions of the island suitable for restoration activities;
- Developing cost estimates for restoration activities;
- Identifying organizations and agencies with the expertise and resources needed to assist in restoration activities—including management of the island’s resources; and
- Reporting additional findings, recommendations, and comments, as appropriate (Appendix 4).

KICC held its first meeting on December 17, 1990 (Appendix 3). From December 1990 to March 1991, KICC concentrated on internal organizational activities and staff appointments. Shortly thereafter, it developed a work plan, identified gaps in knowledge about the island that hindered decisionmaking, and hired consultants to develop an information base on which informed decisions could be founded.

KICC’s detailed work plan established four separate tasks and time frames for data collection, analyses, recommendations, public dissemination, and public input in preparation for the Commission’s final

report to Congress. Two of these tasks dealt with studies of the cultural and historical aspects of Kaho`olawe and personal interpretations of the relative importance of the major findings of these studies. To ensure that its recommendations were based on data of the highest quality, the Commission adopted a unique methodology for the procurement of cultural and historical work products. This methodology combines the efforts and knowledge of professionals and practitioners.

A 30-member cultural-historical review committee, `Ahahui Kako`o, was impaneled to review the findings of consultants working in the cultural and historical areas. These reviews were undertaken to both enhance work done and ensure that all possible resources were located and used. Meetings between KICC consultants and the `Ahahui Kako`o were conducted in a spirit of cooperation with the intent of producing the most accurate cultural and historical studies of Kaho`olawe.

Studies undertaken for this assessment of Kaho`olawe included (Appendix 12) the following.

- Analyses of prehistoric, historic, archaeological, traditional, and contemporary resources to verify and chronicle the significance of Kaho`olawe and its surrounding waters; and to determine the costs associated with the restoration, preservation, and stabilization of these resources—The Edith Kanaka`ole Foundation Pua Kanalehe, of Hilo, Hawai`i; Dr. Pat McCoy, archaeologist, and Rowland Reeve, archaeologist, of Honolulu, Hawai`i; Dr. Michael Graves, Dr. Terry Hunt, Rubellite Kawena Johnson, and Dr. Pauline King of the University of Hawai`i at Manoa, Honolulu; Edith McKinzie, Honolulu Community College; and Carol Silva, Chief Archivist, Honolulu, Hawai`i, were consultants for these studies.
- An analysis of the island’s unexploded ordnance problem, including a historical review of the military’s use of the island as a training site—what areas were used, at what time, and for what types of training; an examination of the technologies available for detecting, and rendering harmless, existing unexploded ordnance, and costs associated with using



those technologies; and an action plan for eliminating the threat of unexploded ordnance and associated costs—Ballena Systems Corporation, Alameda, California, with assistance from Donaldson Enterprises, Kaneohe, Oahu, undertook this project.

- A survey of the numbers and differing species of plants and animals, including birds, currently on the island—The Nature Conservancy of Hawaii, Honolulu, Hawai'i, served as the consultant for this project.
- An analysis of the types and quantities of native plant species on the island, from ancient times to the present—International Archaeological Research Institute, Honolulu, undertook this project.
- An analysis of soil characteristics and rainfall patterns to determine their impacts on the island's erosion problems—Dr. Thomas W. Giambelluca, of the University of Hawaii at Manoa, Honolulu, and Dr. Keith Loague, of the University of California at Berkeley, undertook this effort.
- The translation of existing data on the island, particularly data related to the environment and historic sites, into a format suitable for

mapping analysis—Geographic Decisions Systems International, Honolulu, with the assistance of the Office of State Planning of the State of Hawai'i, undertook this project.

Since March 1991, KICC members have also met at least monthly in public sessions; conducted public hearings throughout the State of Hawai'i; participated in numerous workshops; and visited the island of Kaho'olawe.

KICC's findings, recommendations, and comments are the embodiment of all of these activities.

This report is organized into an Executive Summary and five parts. Part I provides a history of Kaho'olawe, from prehistory to today; Part II reviews aspects of Kaho'olawe's land history that affect its current status; Part III reports on public perceptions of issues surrounding Kaho'olawe; Part IV includes the findings and recommendations of the Commission; and Part V discusses future directions for the island.

The Commission's repository will be available for review at the National Archives in Washington, D.C., the State of Hawai'i Archives, and the Office of State Planning in Honolulu, Hawai'i.

## A Word of Appreciation

**T**he Kaho`olawe Island Conveyance Commission extends its sincere appreciation to all of those groups and individuals who so graciously and unselfishly contributed to the development and production of this report.

**To everyone from a very grateful Commission and staff, *Mahalo Nui Loa*, thank you very much!**

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The Staff of State Farm Insurance Claims, Wailuku  
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the *Hokule`a*  
Protect Kaho`olawe `Ohana  
Office of Hawaiian Affairs  
Aunty Clara Ku

Those listed below, as well as many others too numerous to name, afforded the Commission the wealth of their experiences, expertise, and professionalism, as well as their cooperation, support, and services throughout its two-year tenure.

Hokulani Holt Padilla  
Kiope Raymond  
Keli`i Reichell  
Andrea Vasconcellos, Hilo Reporters

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George F. Baker Foundation, Harvard University,  
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Margaret Berman, Seattle, WA.  
Berne Historical Museum Library, Berne,  
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Bernice Pauahi Bishop Museum, Honolulu, HI  
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Hawaiian Historical Society  
The Kamehameha Schools, Honolulu, HI  
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The Library of Congress, Washington, DC  
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## A Word About the Hawaiian Language

There are variant definitions used by the federal and state governments for referring to the aboriginal peoples of Hawai'i and their culture. This report has adopted the terminology consistent with current Federal legislation—i.e., a **Native Hawaiian** is any individual who is a descendant of the aboriginal people who, prior to 1778, occupied and exercised sovereignty in the area that now comprises the State of Hawai'i.

The Hawaiian language is very descriptive and often does not translate easily into English. This report incorporates some Hawaiian language terms that may need translation for the non-native reader. Translations for these terms are provided below.

Pronunciation of Hawaiian is not difficult if taken slowly. All vowels are pronounced and, generally, have a sound similar to that of the European romance languages (French, Spanish, and Italian). There, also, is a glottal (ʻ) that is considered a separate consonant. The glottal, generally, appears only between two similar vowels, i.e., a`a, he`e, and Hawai`i, and each vowel is pronounced. On occasion, some vowels will have a macron over them. This is equally important to the (ˉ) for it signifies a stressed vowel for pronunciation and influences the meaning of the word; for instance, kumu means base or foundation, but kūmū is a type of fish.

### Definitions

ʻAi noa	To eat together regardless of gender
Ali`i	Chief, chiefess, officer, ruler, monarch or nobles
Ali`i Nui	High chief
ʻAwa	A shrub, the root of which is used for ceremonial and medicinal purposes ( <i>Piper methysticum</i> )
Hawai`i Nei	All Hawaiian Islands comprising the Hawaiian Kingdom
Heiau	Pre-Christian place of worship; temple
Honu	General name for turtle or tortoise
Kahiki	A term for Tahiti or on occasion used to describe the "homeland" for Polynesians
Kahu ʻAina	Caretaker of the land; steward
Kahuna	Priest; expert in any profession
Kai	General term for the ocean
Kanaloa	One of the four major deities in Native Hawaiian religion; generally having domain over the ocean and the life within it.

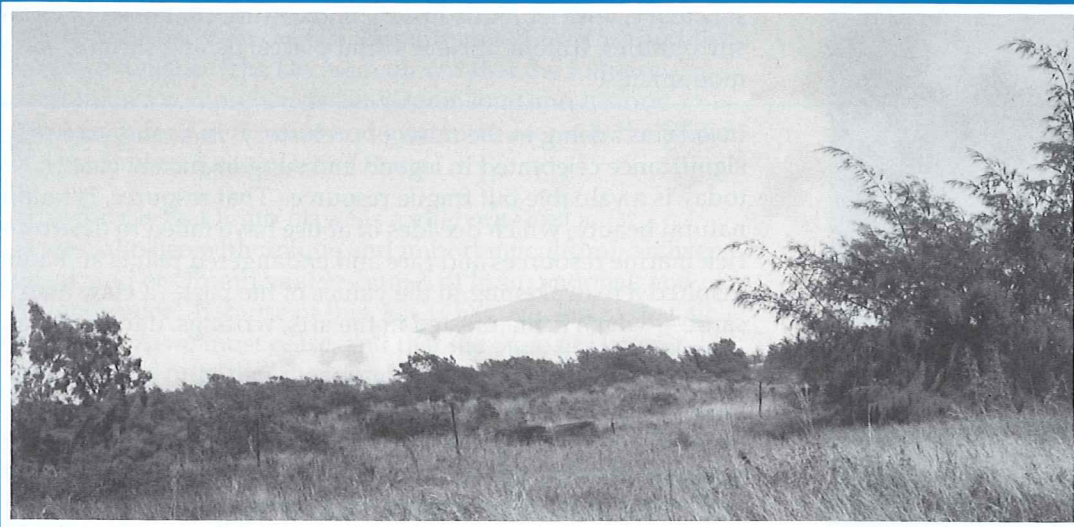
Kane	One of the four major deities in Native Hawaiian religion; generally having domain over life forces.
Kapu	Taboo, prohibited, sacredness
Kiawe	Algaroba ( <i>Prosopis pallida</i> ); related to the mesquite
Ko`a	Shrine usually associated with fishing or birds
Kohola	Humpback whale ( <i>Megaptera novaeangliae</i> )
Kona	Leeward sides of islands; kona winds come from the leeward or south
Ku	One of the four major deities in Native Hawaiian religion, generally having domain over war and battle.
Kuhina Nui	Powerful officer; Regent
Ku`ula	A stone image used to attract fish; also the name of a fishing god.
Limu	General term for seaweed
Lono	One of the four major deities in Native Hawaiian religion, generally having domain over agriculture and plants.

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<b>Lua</b>	Hole, pit	<b>Papa</b>	Creation force for the world, or earth, with female affiliations; similar to "Mother Earth" in Western thought
<b>Ma`o</b>	Hawaiian cotton plant ( <i>Gossypium tomentosum</i> )		
<b>Mo`o</b>	Lizard	<b>Pu`u</b>	Any kind of protuberance; a hill, peak
<b>Nai`a</b>	Porpoise or dolphin ( <i>Stenella longirostris</i> )	<b>Pu`uhonua</b>	Place of refuge, sanctuary, asylum
<b>Na`ulu</b>	Type of rain; sudden showers or misted rain with no visible clouds	<b>Wahi Pana</b>	Legendary place; special place
<b>`Opae `ula</b>	Red shrimp ( <i>Halocaridina rubra</i> )	<b>Wai</b>	General term for fresh water
<b>`Opihi</b>	Limpet ( <i>Cellana sp.</i> )	<b>Wakea</b>	Mythical ancestor of all Native Hawaiians

**Note:** Translations have been taken from: Mary Kawena Pukui and Samuel Elbert. *Hawaiian Dictionary* (University of Hawaii Press: Honolulu, HI, 1986).

# EXECUTIVE SUMMARY



*The lowland shrub of Kaho'olawe  
(Photo courtesy Hardy Spoehr)*



## Restoring a Cultural Treasure



**T**his report calls upon the United States government to return to the people of Hawaiʻi an important part of their history and culture, the island of Kahoʻolawe. The island is a special place, a sanctuary, with a unique history and culture contained in its land, surrounding waters, ancient burial places, fishing shrines, and religious monuments.

Its origins arising in the mists of prehistory, its beauty and religious significance celebrated in legend and sung in ancient chants, Kahoʻolawe today is a valuable but fragile resource. That resource, is founded in natural beauty, which decades of abuse have failed to destroy, and in rich marine resources and rare and endangered plants and animals, has inspired a reawakening to the values of the past—a Hawaiian Renaissance—which is manifested in the arts, writings, dance, music, and politics of today.

Since before World War II, the island has been used by the U.S. military primarily as a weapons range. In 1953, President Dwight D. Eisenhower promised that the U.S. government would return the island to the people of Hawaiʻi when its usefulness for military training was ended. In anticipation of that event, the Congress in 1990 established the Kahoʻolawe Island Conveyance Commission to recommend the terms and conditions for the return of the island to the State of Hawaiʻi.

### Kahoʻolawe Island and the Struggle for Control

Kahoʻolawe Island is one of the eight major Hawaiian Islands. It lies nestled between Maui, Lanaʻi, and Molokaʻi. Unlike any of the other Hawaiian Islands, Kahoʻolawe was named for one of the primary Native Hawaiian deities, Kanaloa. Today, the island retains its cultural significance as a place for the practice of traditional and contemporary Hawaiian culture, including religion. Kahoʻolawe possesses numerous unique archaeological, historical, cultural, and environmental resources.

Military use of Kahoʻolawe began in the early 1930s. In 1953, the Secretary of the Navy officially became the administrator for the island through President Eisenhower's Executive Order No. 10436 (Appendix 1). This Executive Order was issued after extensive discussions between officials of the federal and territorial governments. There was a mutual understanding, which is reflected in the Executive Order, that the island would be restored to a usable condition and returned to local control when it was no longer needed for military purposes.

Public sentiment for Kahoʻolawe's return to local control has grown since President Eisenhower signed the Executive Order and reflects the combined efforts of many individuals and Hawaiian organizations.

On October 13, 1976, a civil suit, *Aluli v. Rumsfeld* (Civil No. 76-0380), was filed in the U.S. District Court for the District of Hawaiʻi, seeking compliance by the U.S. Navy with environmental, historic preservation,



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and religious freedoms laws. In 1978, the Court issued a partial Summary Judgment against the U.S. Department of Defense, finding that the military's use of Kaho'olawe violated federal statutes, the terms of the Presidential Executive Order, and federal regulations that were intended to guarantee the integrity of the island's archaeological, historical, cultural, and environmental resources.

In 1980, the same federal District Court entered into a Consent Decree that led to negotiations between the U.S. Department of Defense and the Protect Kaho'olawe 'Ohana. The Decree required that the military develop and maintain a comprehensive environmental and historic preservation program for Kaho'olawe and guarantee access to the island by members of the Protect Kaho'olawe 'Ohana.

KICC's major finding is that Kaho'olawe is a *wahi pana* and a *pu'uhonua*—a special place with unique and important cultural, archaeological, historical, and environmental resources of local, national, and international significance. Because of this, KICC has concluded that all military use of Kaho'olawe must cease, and that the State of Hawai'i must guarantee in perpetuity that the island and its surrounding waters be used exclusively for the practice of traditional and contemporary Native Hawaiian culture, including religion—and for educational and scientific purposes.

KICC recommends that the island of Kaho'olawe be returned to the State of Hawai'i as part of its Public Land Trust, without conditions and reverter, in as expeditious a manner as possible, for the practice of Native Hawaiian culture and for educational and scientific purposes; and that the federal government be responsible for the clearance and removal of unexploded ordnance and related solid waste and any hazardous or toxic waste, should it be found; and that the island be restored to a condition reasonably safe for human habitation and human use.

Existing federal statutes and regulations indicate how situations such as Kaho'olawe would ordinarily be addressed in terms of environmental restoration and liability. The decontamination of hazardous and toxic waste is required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA/Superfund). CERCLA Section 120 affirms the obligation and ongoing liability of the United States with regard to the clean up of federal facilities. Removal of unexploded ordnance is a goal of the Defense Environmental Restoration Program (DERP) as defined by the Superfund Amendment and Reauthorization Act of 1986 (SARA).

KICC's recommendations recognize the intent of these statutes and the technical abilities of agencies charged with insuring compliance. They also are designed, however, to return the island of Kaho'olawe to the State of Hawai'i through the most expeditious means possible.

### Findings and Recommendations

This report is a unique and historic document. No other federal study of the future of Kaho'olawe Island, authorized by the U.S. Congress, has ever been undertaken. Never before have Native Hawaiians and other





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residents of the state had the opportunity to contemplate the return of the island to state control, recommend uses of the island that comply with state and local rather than federal needs, and plan a future for the island based on cultural and historic values. KICC has gone to great pains to make this report an expression of widespread public sentiment. Embodied in Commission findings and recommendations are the countless thoughts and aspirations of Hawai'i's citizenry, including: fishermen and farmers; government officials; youth, adults, and seniors; academicians and students; Native Hawaiians and non-natives; military professionals; researchers; and people from all walks of life who call Hawai'i home.

### Recommendations to the U.S. Congress and the Federal Government

The Commission's recommendations necessarily begin with federal action, which is required to convey title to Kaho'olawe Island back to the State of Hawai'i. Federal action is also required to fulfill certain responsibilities that the federal government has already assumed or should assume. All of the recommended federal action is necessary to bring about the results envisioned by the Commission; selective or piecemeal federal action shall be avoided.

### Terms and Conditions for the Return of Kaho'olawe to the State of Hawai'i

Existing federal statutes and regulations specify how state lands that have been used for military purposes are ordinarily returned to state control. Kaho'olawe, however, is not an ordinary case. Executive Order No. 10436 and other stipulations surrounding the taking of Kaho'olawe by the federal government for military purposes present unique circumstances that require a different approach for return of the island to the State of Hawai'i.

**Recommendation 1.1.** The island of Kaho'olawe shall be returned to the State of Hawai'i in as expeditious a manner as possible through special legislation stipulating the following:

- Title to the island of Kaho'olawe shall be returned to the State of Hawai'i without conditions or reverter.
- The United States shall bear all costs and liability for, and take responsibility for, the clearance and removal of unexploded ordnance and related solid waste and other hazardous and toxic wastes, should they be found, as required by Executive Order No. 10436, until the island of Kaho'olawe and its surrounding waters have reached a condition reasonably safe for human habitation and human use in accordance with safety standards mutually agreed on by the State of Hawai'i and the United States.

If additional items or materials are located and were deposited by actions of the federal government, additional funds shall be appropriated to ensure their removal, and all remedial actions



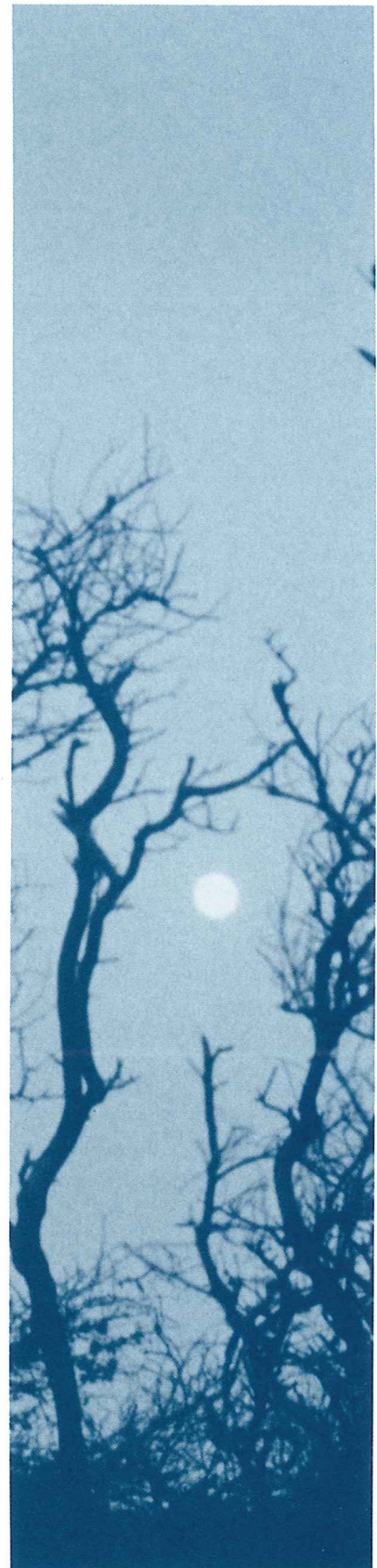
## Executive Summary

required to make the island and its surrounding waters safe for prescribed uses shall be promptly undertaken by the federal government.

- The United States shall provide for the restoration of Kaho`olawe as required in Executive Order No. 10436 by providing funding for soil conservation activities, including erosion abatement, revegetation, and reforestation; water resource development; archaeological and historical site stabilization, restoration, and interpretation; removal and destruction of non-native plant and animal species; and fencing with adequate and appropriate signage.
- The United States shall provide funds to cover all costs for the clearance and removal of unexploded ordnance and related solid waste and other hazardous and toxic wastes, should they be found, and for the restoration of Kaho`olawe. These funds shall come from the general funds of the United States and shall not be a sharing in special funds set aside for similar purpose on a priority basis, such as Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or Superfund Amendment and Reauthorization Act of 1986 (SARA) funds. The funds shall be made available by the United States Congress to the United States Department of Defense. The United States Department of Defense shall grant to the State of Hawai`i, for implementation of activities on Kaho`olawe, the portion of funds required for soil conservation and the related activities noted herein. The portion of funds required for the clearance and removal of unexploded ordnance and related solid waste and other hazardous and toxic wastes on Kaho`olawe and in its surrounding waters shall be granted to the appropriate agency(ies) of the federal government. Such agency(ies) and pertinent federal statutes and regulations shall be identified in the special legislation. The appropriate agency(ies) shall be directed to act with all deliberate speed to begin clearance and removal of unexploded ordnance and related solid waste from Kaho`olawe and its surrounding waters.
- The United States shall retain responsibility for the removal, or disarming and removal, of all unexploded ordnance and related solid waste and any other hazardous or toxic waste exposed or located due to erosion or other causes on Kaho`olawe or in its surrounding waters subsequent to the certification of Kaho`olawe and its surrounding waters as meeting the cleanup standards mutually agreed to by the State of Hawai`i and the federal government.

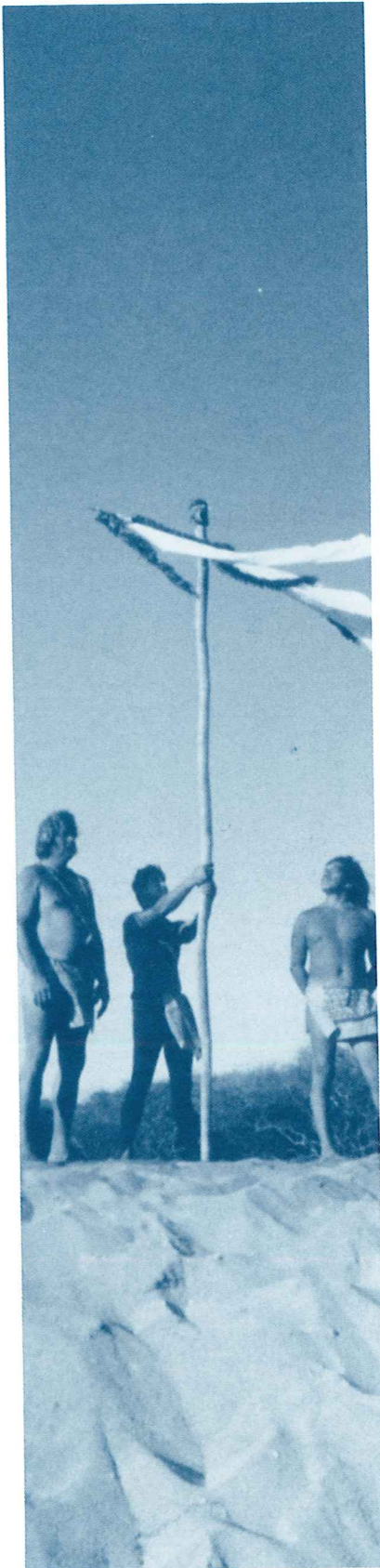
### Munitions Training Prohibition

Since 1990 and the formation of KICC, all military departments have been restricted from using Kaho`olawe "to conduct bombing training, gunnery training, or similar munitions delivery training." It is anticipated that enactment of special legislation for Kaho`olawe will not be completed before the munitions restrictions expires.





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**Recommendation 1.2.** The United States Congress shall insert the following language in all military appropriation measures until such time as special legislation is enacted regarding Kaho`olawe's return to the State of Hawai`i: "None of the funds made available by this Act shall be available for any Military Department of the United States to conduct bombing training, gunnery training, or similar munitions delivery training on the parcel of land known as Kaho`olawe Island, Hawai`i."

### Unexploded Ordnance and Related Solid Waste Removal

Executive Order No. 10436 specifically requires the federal government to restore the island once it is no longer required for naval purposes. It is the Commission's position that the island needs to be restored to a condition safe for human habitation and human use. Unexploded ordnance (UXO) and its related solid waste are located on the island as well as in its surrounding waters. It is the Commission's firm belief that the entire island of Kaho`olawe and its surrounding waters can be made safe for the purposes identified in this report and in S. 3088.

**Recommendation 1.3.** Onsite safety standards for the clearance and removal of unexploded ordnance and related solid waste from Kaho`olawe and its surrounding waters shall be established on the basis of human habitation and other specified human uses and be implemented utilizing the highest state-of-the-art detection techniques and devices.

### Restricted Access and Entry

Since 1941, the military has controlled access to Kaho`olawe. With the change in jurisdiction from federal to state control, the Commission believes that the Protect Kaho`olawe `Ohana's rights to access Kaho`olawe and to enter its surrounding waters for cultural and educational purposes should be maintained.

**Recommendation 1.4.** Access to Kaho`olawe shall remain controlled and supervised. Upon conveyance of Kaho`olawe to the State of Hawai`i, access to and use of the island and its surrounding waters shall be under the jurisdiction of the State of Hawai`i, and access by the Protect Kaho`olawe `Ohana shall be continued.

The appropriate agency(ies) responsible for the removal of unexploded ordnance and hazardous and toxic waste, should any be found, shall have authority to promulgate rules and regulations regarding access to such portions of the island deemed to be necessary for protection against loss of life, bodily injury, or property damage. Any rules and regulations promulgated in furtherance of this recommendation shall be designed to maximize the public use of the island and its surrounding waters for traditional and contemporary cultural practices, and for educational and scientific purposes.

Such rules and regulations shall require the approval of the State of Hawai`i by its Governor or his designee, and shall have the force and effect of law. The state shall not arbitrarily or capriciously withhold



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such approval or consent. The state may at its own discretion terminate or abolish such rules and regulations when it deems they are no longer applicable.

### Termination of Executive Order No. 10436

Executive Order No. 10436 provides the legal basis for many of the Commission's findings and recommendations. It shall be terminated only after all appropriate legislation has been enacted and agreements have been executed with the federal agencies tasked with conducting the work needed to comply with Commission recommendations.

**Recommendation 1.5.** All military use of Kaho`olawe shall cease. Presidential Executive Order No. 10436, dated February 20, 1953, which takes and reserves Kaho`olawe for military use under the jurisdiction of the Secretary of the Navy, shall be terminated upon enactment of special legislation that would transfer to the appropriate federal agency(ies) all the obligations to clean up and restore Kaho`olawe, contained in said Executive order, together with such additional requirements as are recommended by this Commission and as the Congress finds appropriate.

### Recommendations to the State of Hawai`i

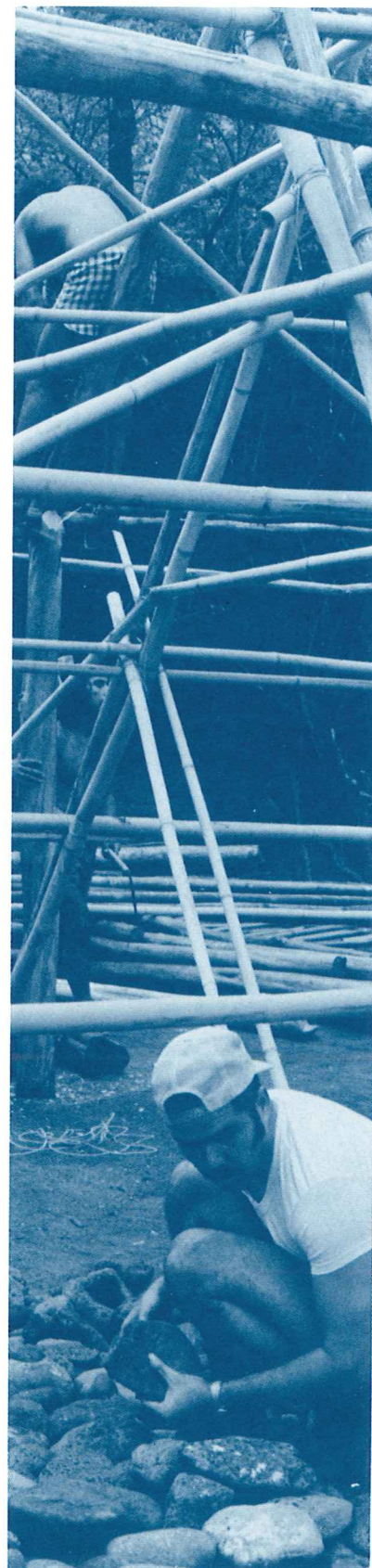
Kaho`olawe Island and its waters offer a unique challenge to all of Hawai`i's people to preserve and protect a corner of their island state so that future generations can become familiar with their islands' past human and natural heritages. For many Native Hawaiians and others, Kaho`olawe is a special place that has been sanctified by the loss of life in a struggle between traditional values and Western concepts of land use and management. Because of all that Kaho`olawe represents, including its unique history and its cultural significance including religion, the Commission finds that the island is a *wahi pana* and a *pu`uhonua* for island people committed to their heritage. These two concepts should guide future use and management of Kaho`olawe and its surrounding waters.

### THE KAHO`OLawe MODEL: ISLAND USE AND MANAGEMENT

The Commission presents the following findings and recommendations as they relate to the purposes, administration, and resource management of Kaho`olawe and its surrounding waters. When taken collectively, these findings and recommendations form a plan of action and a model for future development.

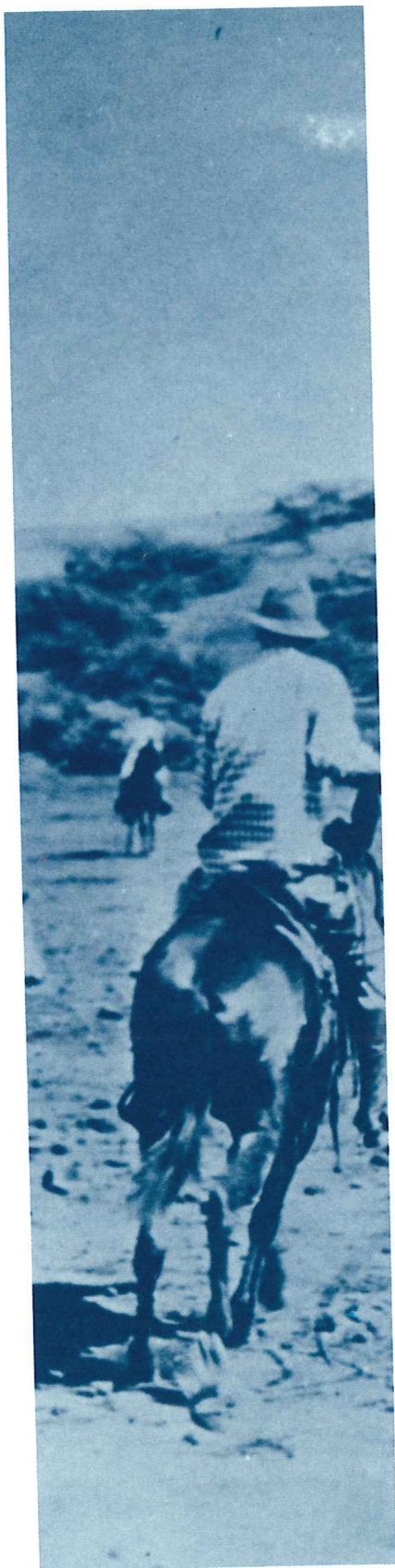
### Purposes

**Recommendation 2.1.** The State of Hawai`i shall pass legislation that guarantees in perpetuity the use and management of Kaho`olawe and its surrounding waters exclusively for the study and practice of traditional and contemporary Native Hawaiian culture; for the study and preservation of archaeological and historical sites, structures, and





## Restoring a Cultural Treasure



remains; for soil conservation and plant reforestation and revegetation activities; and for the enhancement and study of native plant and animal habitats and communities. Commercial activity and exploitation of resources for commercial development are not appropriate on the island or in its surrounding waters and shall be prohibited.

### Administration

The Commission believes that a new body within state government must be established, whose sole purpose is the administration and management of Kaho`olawe Island, its surrounding waters and its diverse resources. This new body must have the ability to: develop and maintain programs, including programs that focus on Native Hawaiian culture, education, and research; hire appropriate staff; and enforce applicable state laws on Kaho`olawe and in its surrounding waters. A staffing model has already been developed for Kaho`olawe.

**Recommendation 2.2.** The State of Hawai`i shall establish an oversight commission, or public authority, to ensure compliance with this Commission's recommendations, ensure their prompt implementation and completion, and administer and oversee activities on the island and in its surrounding waters. This new administrative body shall be provided adequate financial resources to carry out its mandate and to provide financial assistance for professional training and technical assistance for individuals and organizations involved with managing, monitoring, interpreting, or protecting Kaho`olawe's cultural, archaeological, historical, and environmental resources.

The new administrative body shall be convened by the Governor of the State of Hawai`i and shall consist of representatives from the State of Hawai`i, Protect Kaho`olawe `Ohana, Office of Hawaiian Affairs, County of Maui and the Native Hawaiian community. Representatives from appropriate federal agencies may be asked to participate in advisory capacities.

### Return of Land Surrounding the Kaho`olawe Light

Since 1928, land on the island has been set aside for a federally maintained lighthouse. In 1987, a new, simple light was constructed. This new light requires only about 800 square feet for its operation and servicing.

**Recommendation 2.3.** The State of Hawai`i shall enter into negotiations with the U.S. Department of Transportation (U.S. Coast Guard) to seek return, in as expeditious a manner as possible, of all lands not required for the continued operation of the Kaho`olawe light.

### Regulation of Island Airspace

**Recommendation 2.4.** The State of Hawai`i shall discuss with the federal government how best to maintain the current air space restrictions on commercial flights above Kaho`olawe, and how to ensure that such restrictions remain in effect—except for authorized or emergency flights.



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### Special Status and Recognition

On March 18, 1981, the entire island of Kaho`olawe was placed on the National Register of Historic Places because of its archaeological, cultural, and historic significance. It is the only entire island currently on the Register. Kaho`olawe's numerous unique and significant items include the well-preserved remains of settlements, religious and burial sites, petroglyphs, numerous fishing shrines, and the State's second-largest ancient Hawaiian stone tool quarry site.

**Recommendation 2.5.** The State of Hawai'i shall seek to upgrade the status of Kaho`olawe's significant sites to "National Historic Landmark" and should investigate the possibility of obtaining World Monument status for these sites under the International Council of Monuments and Sites (U.S./ICOMOS).

### Place Names

Kaho`olawe's place names also offer unique insights into the island's culture. Many of Kaho`olawe's place names can be traced directly to one or more of the its historic periods noted above.

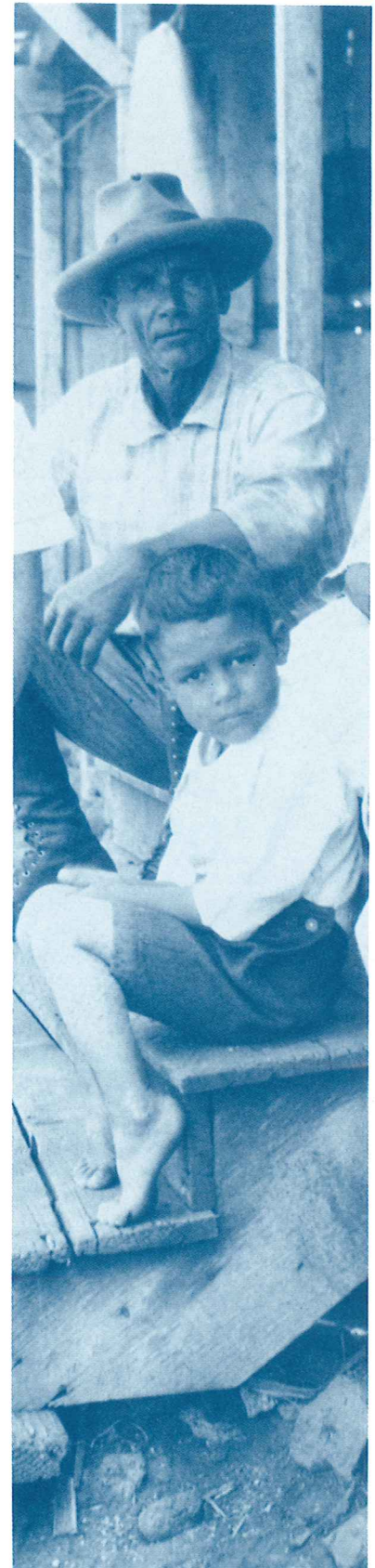
**Recommendation 2.6.** The State of Hawai'i shall work in cooperation with the Native Hawaiian community to conduct a review and analysis of Kaho`olawe's place names and determine the most appropriate names for areas that have been referred to by more than one name.

### Archaeology and History

Kaho`olawe's archaeological and historical resources are valuable state, national, and international treasures that provide insight into the island's past. These resources are unique and, currently, extremely fragile and vulnerable. A Commission study found that the island's petroglyphs are particularly susceptible to wind and water erosion and are quickly disappearing. In addition, the growing market for Native Hawaiian antiquities has led to at least one instance of vandalism on Kaho`olawe during KICC's tenure. A major religious shrine and burial site was pilfered by vandals. The quantity of artifacts taken from the site is not known.

In recent times, a number of burials have been located but most have been reinterred. Native Hawaiian burials and any associated burial goods are protected under the state's Historic Preservation Law (H.R.S. 6E-43) and federal statutes, including the recently passed Native American Grave Protection and Repatriation Act (Public Law 101-601). Hawai'i has developed a system of islandwide burial councils that oversee burial matters.

Data pertaining to Kaho`olawe's archaeological and historical resources are incomplete and inadequate for study and management purposes. Although much information now exists, it needs to be systematically defined and categorized.





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**Recommendation 2.7.** The State of Hawai'i, as part of its effort and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, shall work in cooperation with the Native Hawaiian community to develop and maintain an ongoing historic preservation program for Kaho'olawe that includes:

- Research focusing on oral histories from individuals who have specific knowledge about the resources of Kaho'olawe;
- Research and translation of primary resource materials that are written in the Native Hawaiian language and relate to Kaho'olawe;
- Return and reinterment of all human remains removed from Kaho'olawe—in accordance with existing federal and state laws—and specification that the Protect Kaho'olawe 'Ohana continues to serve as the island's burial council;
- Review and update of the existing inventory of archaeological and historical resources on the island and in its surrounding waters, utilizing consistent standards and state-of-the-art equipment and including the undertaking of intensive surveys at significant or endangered sites, such as Pu'u Moiwi;
- Petrographic analysis of Pu'u Moiwi materials and stone implements from throughout the state to attempt to determine dispersal patterns of materials taken from the site;
- Stabilization and interpretation of the MacPhee-Baldwin complex at Kuheia Bay and the penal colony settlement area at Kaulana Bay. A restored ranch house at Kuheia could serve as a gateway for some types of visits to the island and as a museum and depository for Kaho'olawe archaeological and historical materials;
- Manage, monitor, and protect the island's archaeological and historical resources by having (1) professional staff with adequate financial resources assigned solely to Kaho'olawe and (2) on-island rangers interpreting these resources and enforcing historic preservation laws; and
- Additional research on the cultural, archaeological, and historical aspects of Kaho'olawe and use of that research to initiate and maintain interpretive and educational programs on and off the island.

### Environment

Kaho'olawe is an island. As such, its environment is fragile and sensitive to change. Changes have affected the island's environment with ever-increasing speed. Despite the legacies of the past two centuries, Kaho'olawe retains unique and special environmental resources. Kaho'olawe's flora and fauna are characteristic of Pacific islands located in the lee of larger islands such as Niihau. The Nature Conservancy's recent survey of Kaho'olawe identified 20 rare plant and animal species, including 2 of 8 natural plant communities, 13 native plant species, and 5 animal species. A number of these species are listed on the federal government's threatened and endangered species list.



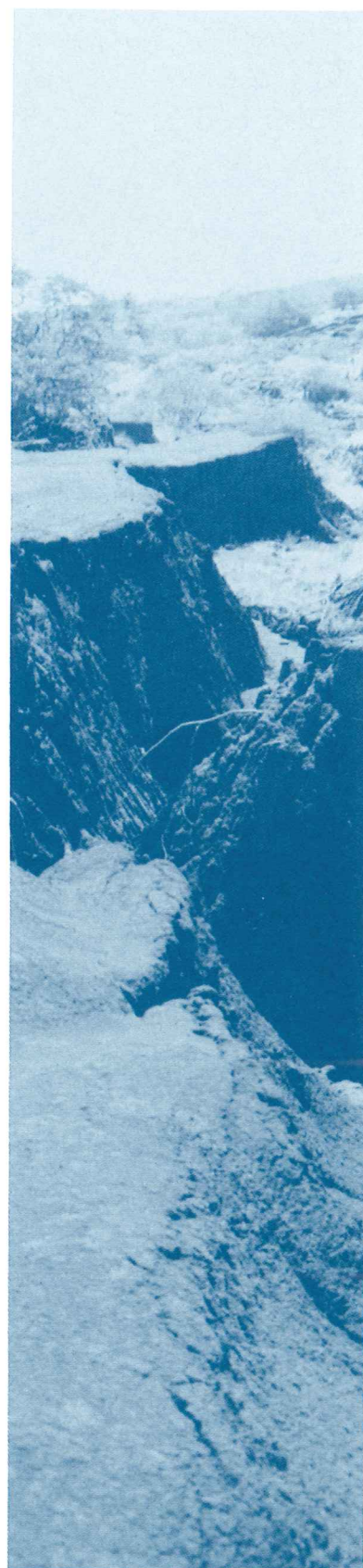
## Executive Summary

One plant in particular deserves mention. It was discovered by scientists from the Pacific Tropical Botanical Garden in a very isolated, difficult-to-reach location on the island. Initial findings indicate that the plant is a new genus found only previously in pollen samples that date to the 14th and 15th centuries, but then disappear. This plant is a remnant from an earlier time. The Commission's recommendation to the scientific community that this new genus be named *Ka Palupalu o Kanaloa* (the gentleness of Kanaloa) has been accepted. Scientific descriptions of the new plant are in process.

**Recommendation 2.8.** The State of Hawai'i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, shall work in cooperation with the Native Hawaiian community to undertake an active program of management, monitoring, protection, and enhancement of Kaho'olawe's rare flora and fauna, including:

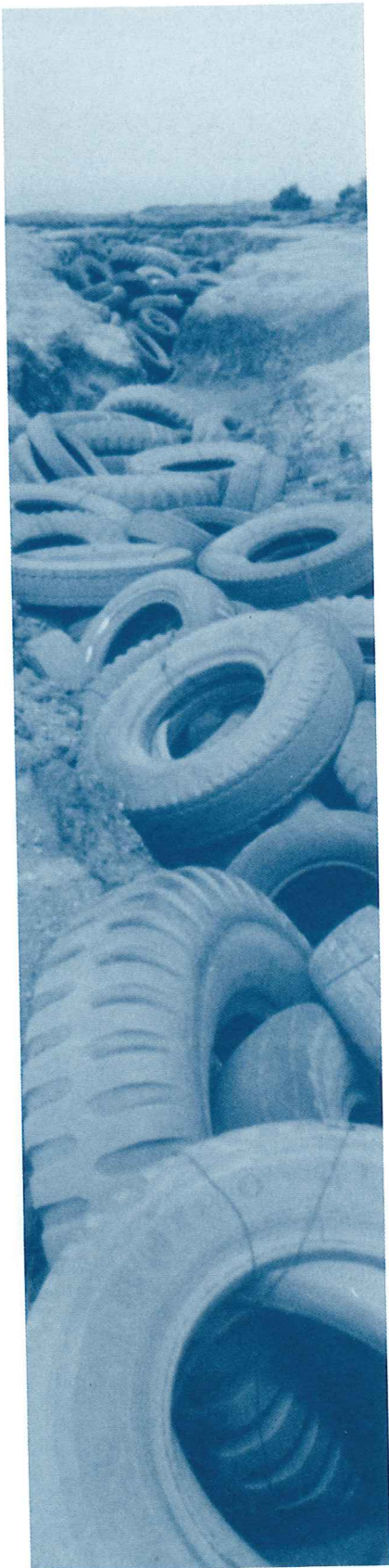
- Focusing management strategies first on those species most immediately threatened with extinction on a worldwide basis;
- Searching the island to locate as many populations of rare species as possible;
- Designating Special Management Areas for the maintenance of native natural communities;
- Establishing elsewhere, on- and off-island, alternative populations of critically endangered species as a hedge against extinction;
- Establishing revegetation projects that use, whenever possible, plant materials that originated from Kaho'olawe;
- Establishing measures to prevent the accidental introduction of exotics onto Kaho'olawe;
- Developing an islandwide fire plan to address the anticipated increasing threat of fire;
- Designing and implementing a monitoring program to assess the status and population trends of rare species and the effectiveness of management programs designed to protect them;
- Undertaking additional surveys that focus on geographical/habitat coverage, wet/dry season coverage, and special groups that include anchialine pools, subterranean species and ecosystems, terrestrial invertebrates, nonvascular plants (e.g., lichens, mosses, and liverworts), and marine biota; and
- Hiring professional staff, including rangers, to conduct educational and interpretive activities and to enforce environmental laws.

**Soils.** Soil erosion—by wind and water—is the major environmental destabilization process affecting Kaho'olawe. It has been estimated that in recent times more than 1,880,000 tons of soil are being lost each year as a result of erosion. It is estimated that much of the island's top layer of soil has eroded. Much of the eastern end of Kaho'olawe is eroded to a point where only hardpan remains.





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**Recommendation 2.9.** The State of Hawai'i shall, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, work in cooperation with the Native Hawaiian community to undertake an active soil erosion abatement program that:

- Focuses on soil retention activities by expanding reforestation and revegetation efforts, particularly in the hardpan area, and utilizing a strategy based on prioritizing and stabilizing individual watersheds;
- Uses check dams and other appropriate erosion control measures to reduce or eliminate gullying; and
- Realigns and engineers roadways and other access routes either to minimize or eliminate water runoff or to capture flowing water for soil conservation activities, similar to the Mauna Kea access road system.

**Water (Wai).** Rainfall is the major source for fresh water on Kaho'olawe. Ground water and desalinization offer other sources. Water is needed for soil conservation and other activities.

**Recommendation 2.10.** The State of Hawai'i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, shall work in cooperation with the Native Hawaiian community to undertake a water resource program that includes initiation, development, and maintenance of appropriate projects in water resource development, including rainfall harvesting (catchment), ground water development, and desalinization to provide water needed for soil conservation and other related activities.

**Reforestation and Revegetation.** The key to environmental stabilization of the island is the reestablishment of its vegetative cover, particularly in the hardpan area.

**Recommendation 2.11.** The State of Hawai'i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, shall work in cooperation with the Native Hawaiian community to undertake an active reforestation and revegetation program that:

- Uses native plant species wherever possible, including developing nurseries for captive propagations of Kaho'olawe plant species and other viable native plant species for the island;
- Continues and expands grass replanting schemes in priority watershed areas in the hardpan;
- Continues and expands windbreak planting with appropriate plants; and
- Replaces exotics where and when appropriate with native plant species (priority areas for species replacement will be in natural native plant communities).



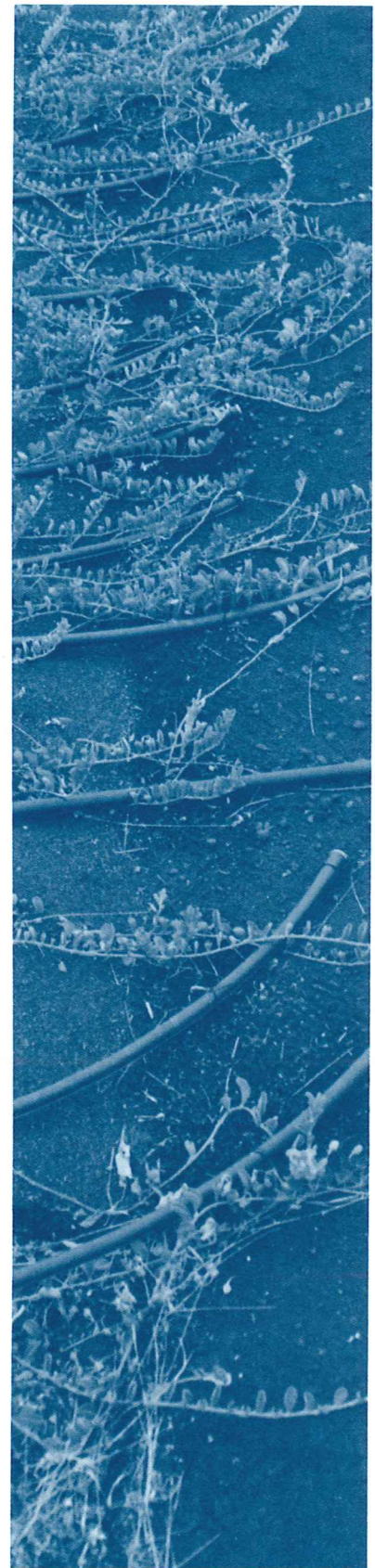
## Executive Summary

**Surrounding Waters.** The waters surrounding Kaho`olawe are an integral part of the island environment. Two of the greatest threats to the resources in Kaho`olawe's surrounding waters are siltation caused by erosion, and human activity including commercial fishing and diving. The State of Hawai'i recently completed an inventory of aquatic resources in the island's coastal areas. Preliminary data from that study suggest that the island's coral reefs are in good health, but are very fragile and are threatened by silt and sediment.

**Recommendation 2.12.** The State of Hawai'i shall recognize the waters surrounding Kaho`olawe for their pristine nature—and their importance in maintaining numerous marine species populations—and designate these waters with special status under the law.

### Estimated Expenditures for Island Restoration

The total cost for Kaho`olawe's restoration, including the clearance and removal of unexploded ordnance and related solid waste; soil conservation activities, and construction and maintenance of related infrastructure development, is estimated to be \$110 million. This estimate does not include costs associated with the clearance and removal of unexploded ordnance from Kaho`olawe's surrounding waters or the removal and mitigation of any hazardous or toxic waste, should it be found. Cost estimates are made in accordance with the best information currently available, based on findings of KICC consultants. They are estimates only and are submitted by way of illustration—not by way of limitation. KICC restates its position that the federal government must bear all costs and liability for Kaho`olawe's cleanup and restoration in accordance with the requirements of Executive Order No. 10436. Details of estimated expenditures are contained in Part IV. A table of cost estimates is provided on the following page.



# Restoring a Cultural Treasure

## Total Expected Costs (In Millions of Dollars)

### Unexploded Ordnance and Solid Waste Clearance

Clearance and Removal	\$72.0		
Infrastructure	\$15.0		
Site Characterization Study	<u>\$ 1.0</u>		
<b>Total</b>			\$88.0

### Soil Conservation Activities

<b>Soil Erosion Abatement</b>			
Check Dam/Terracing Activities	\$ 3.0		
Reforestation/Revegetation	<u>\$ 7.0</u>		
<b>Total</b>		\$10.0	

### Water Resource Development

Rainfall Harvesting	\$5.2		
Groundwater Development	\$1.4		
Desalinization Facility Development	<u>\$ 0.6</u>		
<b>Total</b>		\$7.2	

### Historic Preservation

Historic Preservation Program	<u>\$ 3.0</u>		
<b>Total</b>		\$ 3.0	

### Biological Critical Habitat

#### Enhancement

<b>Total</b>		<u>\$ 1.4</u>	
<b>Total Soil Conservation</b>		\$ 21.6	\$21.6

### Fencing and Signage

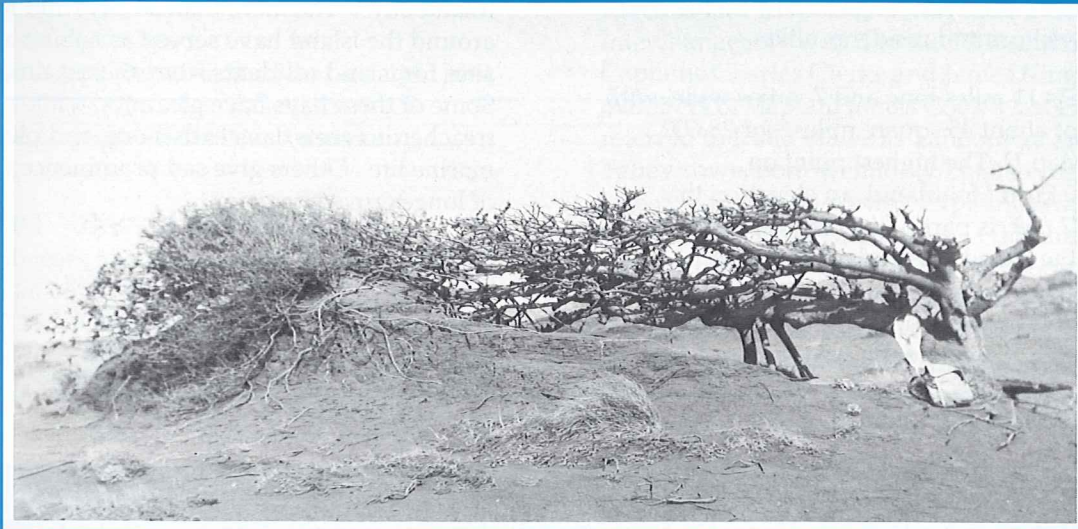
Fencing Materials and Installation	\$ 0.185		
Fence Maintenance (5 years)	0.090		
Signage and Installation	0.100		
Sign Maintenance (5 years)	<u>0.025</u>		
<b>Total</b>		\$ 0.400	<u>\$0.4</u>

### TOTAL FOR ALL PROJECTS

\$110.0



# PART I



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## From Mists of Time to Clouds of Dust

*A 1939 image of a wind-blown wili-wili tree on the southwest slope of Lua Makika—  
a mound of soil has formed on the tree's leeward side  
(Photo by E.H. Byran, Jr., courtesy of the Bishop Museum)*



## Restoring a Cultural Treasure

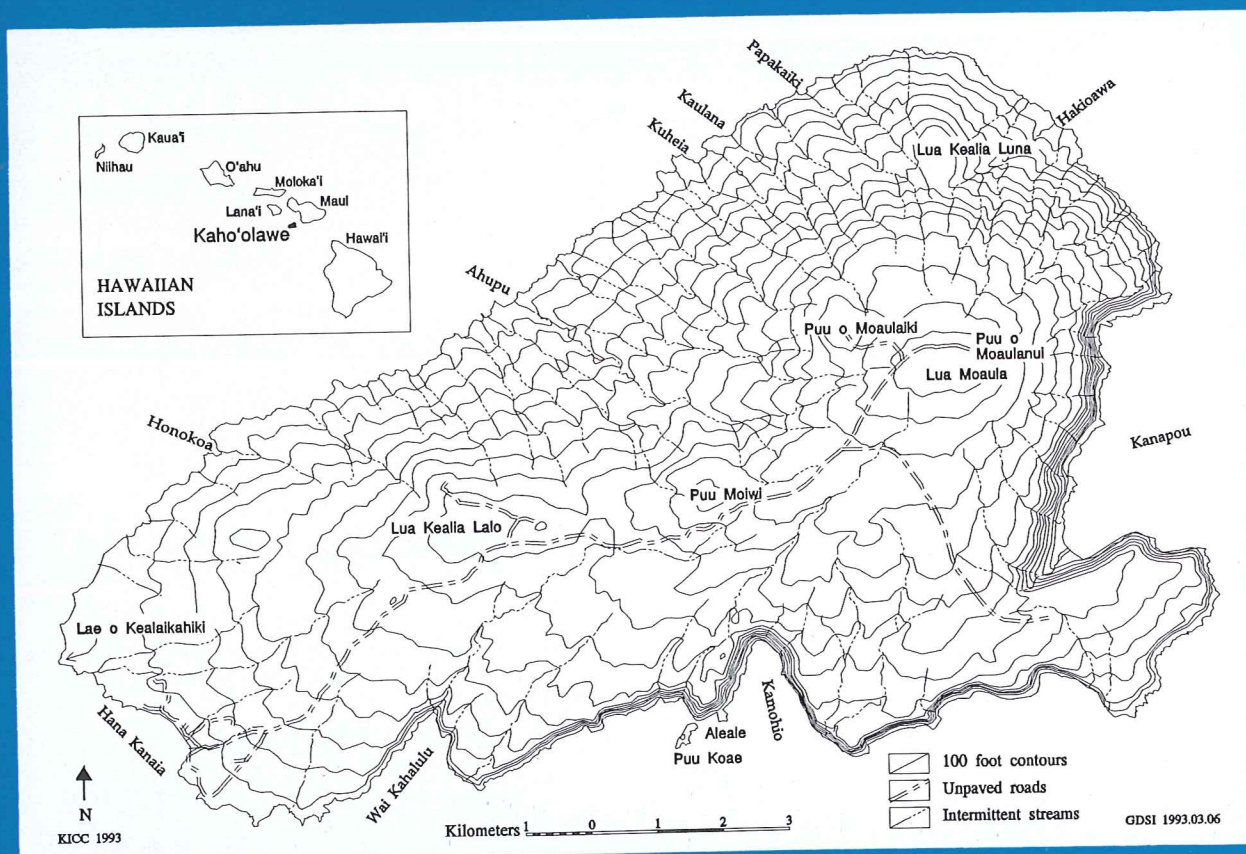
Nestled between the islands of Lanaʻi, Molokaʻi, and Maui and but seven miles offshore from Maui's resort city of Kihei, the Hawaiian Island of Kahoʻolawe casts a looming shadow on the near horizon for visitors and residents alike.

Kahoʻolawe is 11 miles long and 7 miles wide, with a total area of about 45 square miles—or 28,600 acres. (See Map 1) The highest point on Kahoʻolawe, Puʻu Moaulanui, an elevation that reaches 1,477 feet, is part of the original caldera complex of the island. Secondary eruption sequences have resulted in smaller *puʻu* (hills) and *lua* (pits) visible around the island—including Lua Kealialuna, Lua Kealialalo, Puʻu Moiwī, and Puʻu Moaulaiki.<sup>1</sup>

Kahoʻolawe's southern and eastern coasts are characterized by steep sea cliffs, while its north and west coasts give way to gently sloping ridges with inland bays. The more than 30 bays and beaches around the island have served as habitat and work sites for island residents from ancient times to today. Some of these bays have gleaming white sands with treacherous reefs, lava extrusions, and plentiful marine life. Others give sad prominence to impacts of long-term soil erosion.

Scientists believe that Kahoʻolawe ascended from the ocean depths to become one of the major Hawaiian Islands, along with Niʻihau, Kauaʻi, Oʻahu, Molokaʻi, Lanaʻi, Maui, and Hawaiʻi, about 1.5 million years ago.<sup>2</sup> The geological history of

Map 1. Kahoʻolawe Island





## From Mists of Time to Clouds of Dust

Kaho`olawe, is, however, only a small part of the tale of this island whose story began in the legends and chants of prehistory; was later described in the logs, journals, and correspondence of explorers, missionaries, statesmen, academics, and island residents; and is now being retold through the artifacts and other remains that still remain within its borders.

Kaho`olawe's story depicts a land that is a *wahi pana* (special place) and a *pu`uhonua* (sanctuary). It begins with the origin of the island's name.

### An Island Named Kanaloa

Kaho`olawe is only one of the traditional names that this island has carried. Literally translated, "Kaho`olawe" means "to be caused to be carried away" or "to be brought together." Some believe that this is a reference to ocean currents between Maui, Lana`i, and Hawai`i that converge at the island and bring a great assortment of drift materials to its shores.<sup>3</sup> Prior to western contact, Kaho`olawe had other names that indicate its significance as a *wahi pana* and *pu`uhonua*. The name that sets the island apart from others in Hawai`i and indeed, the Pacific, is Kanaloa, the name of one of the four principal gods honored throughout Polynesia. Kanaloa is associated with all things of the sea, but also has affinities with the land and the heavens. At least three of the chants that record the origin of the Hawaiian Islands and their people reveal the name of Kanaloa for the island of Kaho`olawe. As an example, the chanter-composer Pakui of the court of Kamehameha I provided the following:<sup>4</sup>

Kaahea Papa ia Kanaloa, he moku  
I hanauia he punua he naia,  
He keiki ia na Papa i hanau,  
Haalele Papa hoi i Tahiti,  
Hoi a Tahiti Kapakapakaua.

Other traditional names include *Kohemalamalama* or *Kohemalamalama o Kanaloa* which refers to the significance of the island as a directional aid for the long voyages of Hawaiian *ali`i* between Hawai`i and Tahiti and perhaps, as a resting place for Kanaloa himself. *Kahiki Moe* refers to a place where the Sun sets or goes to sleep, or perhaps to a homeland. *Hineli`i* refers to the light rain that is characteristic to the island. *Kohema* or *Ailani Kohema Lamalama* means "to the left," or "to your left and lit up like heaven," which may describe how voyagers viewed

the island as they entered the Hawaiian Island chain. A final name, *Kukulu Ka`iwi o Ka`Aina* translates as "the bone of the land standing upright," which may be a reference to how the island appeared from the early voyaging canoes.<sup>5</sup>

Written records seem to indicate that the names Kanaloa and Kaho`olawe may have been used interchangeably well into the 19th century. In 1779, Captains Charles Clerke and James King, two members of Captain James Cook's last expedition, referred to Kaho`olawe as Tahoorowa and Tahowrowe, both seemingly English cognates of Kanaloa and Kaho`olawe.<sup>6</sup> Explorer William Ellis again mentioned "Tahaurawe. . . the small island on the south side of Maui" in his 1828 journal of his travels throughout the Hawaiian Kingdom.<sup>7</sup> That same year, the Reverend William Richards, resident missionary in the town of Lahaina on Maui, wrote about a school established on the island of Kahoolawe.<sup>8</sup> Regardless of name, it is certain that Kaho`olawe was an integral part of the sociogeopolitical structure as it evolved in ancient and historical Hawai`i.

### Prehistory: Linking the Present to the Past

The earliest accounts of Kaho`olawe have been passed from generation to generation through chants and storytelling. Chants attributed to *kahuna* of Kamehameha I indicate that Papa gave birth to Kaho`olawe in association with the creation of the other major Hawaiian islands. The 19th century Hawaiian historian, David Malo, subscribed to this account; however, the Swedish adventurer and collector of Polynesian lore, Abraham Fornander,

*Papa was prostrated with Kanaloa,  
an island,  
Who was born as a birdling;  
as a porpoise;  
A child that Papa gave birth to,  
Then Papa left and went back to Tahiti,  
Went back to Tahiti at Kapakapakaua*

*Translation of the traditional  
chant on the birth of Kaho`olawe*



## Restoring a Cultural Treasure



*Dr. Gordon T. Bowles collects adze fragments from Kahoʻolawe's major stone quarry, Puʻu Moiwi, in 1939  
(Photo Courtesy of the Bishop Museum)*

recorded a different version of Kahoʻolawe's creation. Fornander wrote that all of the Hawaiian islands, except Kahoʻolawe came from the relationship between Wakea—the mythical ancestor of all Native Hawaiians—and Papa and that Kahoʻolawe came from the Hawaiian goddess Hina, famous for her affiliations with another Hawaiian island, Molokaʻi.<sup>9</sup>

Pele, Hawaiʻi's fire goddess, also played a predominant role in Kahoʻolawe's legends. The 19th century Hawaiian historian, Kepelino, recounts how Pele brought forth the sea around Hawaiʻi from Kahoʻolawe.<sup>10</sup> It had been given to her by her parents, and she brought it to Hawaiʻi, to Kahoʻolawe, where she emptied it onto the land and created the oceans around the islands.

According to Hawaiian legends, as each of the Hawaiian islands was discovered and settled by humans, the spirits fled to other uninhabited islands. After its creation, Kahoʻolawe was a place where only gods, goddesses, and spirits dwelt. It became the last bastion for dwellers of the spirit world. Traditional literature abounds with other references to Kahoʻolawe in relation to the exploits of many of Hawaiʻi's other gods, goddesses, and spirits.<sup>11</sup>

Kahoʻolawe's prehistory concludes with the arrival of Polynesian voyagers and settlers, who landed in Hawaiʻi in about 200 A.D., but continued to travel

between their homeland and the Hawaiian Islands for centuries. These first settlers sailed across thousands of miles of open seas with only their knowledge of ocean currents, winds, stars, and other heavenly bodies to guide them. Archaeological evidence indicates that they first came from islands in the Marquesas; however, voyagers from islands in Samoa, Tahiti, and other islands in southern Polynesia may also have come. Kahoʻolawe seems to have been settled about 1000 A.D. Small communities were established along its coastline. Inland areas were not settled with any sort of permanency, however, until about 1300 A.D.; and even then, such populations were small.<sup>12</sup>

Between 1200 A.D. and 1400 A.D., a second influx of voyagers and voyaging occurred—this time between Hawaiʻi and the Society Islands, probably Raiatea and its neighboring Tahiti-nui. Included among these voyagers was Ariki nui Paʻao, who brought with him the strict Aliʻi System of Tahiti, which integrated social, political, and religious systems into one structured society.

During this era, Kahoʻolawe seems to have come into prominence as a navigational aid. The island's western-most point, Kealaikahiki, served as a directional aid for voyagers leaving Hawaiʻi and is referred to in the voyaging exploits of Moikeha, his son Kila, Laʻamaikahiki, Tahitinui, and Wahanui. Archaeological evidence visible on the summit of



## From Mists of Time to Clouds of Dust

Moaula, coupled with traditional accounts, also indicates that Kaho`olawe may have been an important training center for island navigators of this era. A significant feature of this landmark is the *pohaku ahu`Aikupele Kapili o Keaweiki*, a bellstone altar that accounts indicate embodied the knowledge of *kahuna* Keaweiki. Place names on Kaho`olawe, such as Moaulanui and Moaulaiki, also attest to the legacy of the great voyaging exploits from Tahiti.<sup>13</sup>

Between 1400 A.D. and 1600 A.D., there seems to have been an increase in the use of the interior of the island for agriculture. This expansion seems to have occurred because of the land's ability to grow sweet potatoes and other dryland crops.

In the middle of the 17th century, a large nucleated settlement emerged at Hakioawa on the island's eastern coast. It grew to become the island's largest community and its political and religious center. The island's largest known *heiau* is located at Hakioawa and was probably constructed during this period.

By the end of the 18th century, the island's population had greatly declined at Hakioawa as well as in other settlements. This has been attributed to the interisland warfare among *ali`i*, which was rampant at that time; disease that had been introduced into the island from contacts with traders and whalers; and general emigration from the island which may have occurred as inhabitants moved to the larger islands of Maui and Lana`i. English carpenter George Youngston reported that Kaho`olawe had a population of 160 in 1805.

Unlike other Hawaiian Islands, few former residents of Kaho`olawe ever returned, and even fewer new residents made it to the island in historical times. Thus, much of Kaho`olawe's ancient story is still visible and includes petroglyphs, house sites, fishing and agricultural shrines, a major stone quarry with shrines, a relatively large *heiau*, and the remains of those who made Kaho`olawe their home.<sup>14</sup>

### Historical Periods

Although historians know that Kaho`olawe had a human population by 1250 A.D., the first known written accounts of the island did not appear for more than 500 years. Kaho`olawe's written history, therefore, begins in the year 1779, when descriptions of the island first began to appear in ships' logs. Seven distinct historical periods have been defined.<sup>15</sup>

- Early Contact Period (1779-1825)
- Missionary Period (1825-1853)
- Early Ranch Period (1853-1910)
- Forest Reserve Period (1910-1918)
- Later Ranch Period (1918-1941)
- Military Period (1941-1980)
- Joint-Use Period (1980- present)

### Early Contact Period (1779-1825)

Early historical accounts of Kaho`olawe came from western explorers sailing in the island's vicinity. The first accounts are attributed to English explorers James King and Charles Clerke of Cook's last voyage. They sailed by Kaho`olawe in 1779 and described the island in their ships' logs as barren and isolated with indications of little or no population. Explorers such as Vancouver, Freycinet, and Kotzebue described the island in similar terms. Unstable winds and treacherous inland waters, particularly around Kealaikahiki Point led King and Clerke and those who followed, to make observations from course settings that brought their vessels to the island's south shore, a barren and cliff-faced coastal area. Thus, they missed possible settlements along the island's more hospitable northern coast. Some accounts, however, mention fires, which may indicate that Kaho`olawe's population was preparing fields for planting.<sup>16</sup>

During the 18th century, Kalaniopu`u invaded Kaho`olawe during his bloody battles with Kahekili for control of the islands of Lana`i and Maui. Untold numbers of Kaho`olawe residents also may have perished in these battles. A few decades later, the young *ali`i* Kamehameha I went to war in an effort

*"Wednesday 24th . . . Tahowrowe, the W[es]tern part of which we say look'd very desolate, neither houses, trees, nor any cultivation that we saw: It is of mod height, & has a sandy appearance . . .*

*Lieutenant James King: His Majesty's Ship  
Discovery; February 24, 1779*



## Restoring a Cultural Treasure



*Petroglyph found on a slope of Pu'u Moaulanui  
(Photo Courtesy Meleana Meyer)*

to unify all the islands into one kingdom. The population of Kaho'olawe was most certainly affected. Thus, by the time European and American seafarers observed Kaho'olawe, the impacts of war may have accounted for the island being almost void of a permanent population. Moreover, the Hawaiian family system generally kept members together in specific localities; hence, the elimination of individual family members living on Kaho'olawe may have resulted in the elimination of entire families with ties to the island.

Hawaiian *ali'i nui* continued to journey to Kaho'olawe. During the latter part of the 18th century, *ali'i* Ke'eaumoku fled to Kaho'olawe from Maui to escape the conquering armies of a Maui *ali'i*, Kahekili, in his battles with Kalaniopu'u. Almost 100 years later, another *ali'i nui*, King David Kalakaua, traveled to Kaho'olawe for spiritual reasons. An account of the trip was published in the Hawaiian language newspaper *Ka Lahui Hawaii*.<sup>17</sup>

In 1793, Captain George Vancouver gave Kahekili a parting gift of goats and, as the story is told, Kahekili sent the goats to Kaho'olawe to grow and

*They saw petroglyphs of a man and a dog. There were human bones, some so small they were determined to be those of a stillborn infant . . . proof that Kaho'olawe had been home for some Hawaiians, rather than just a summer fishing spot, as some people have suggested.*

Honolulu Star Bulletin, April 27, 1981

multiply. Those goats were the forebears of the thousands of goats that would roam and denude Kaho'olawe of its vegetation for almost two centuries to follow.<sup>18</sup>

By the late 1700s, the Hawaiian Islands were undergoing extreme political changes. In 1795, Kamehameha I extended his rule from Hawai'i by conquering Maui, Lana'i, Kaho'olawe, and O'ahu. In 1810, the *Ali'i Nui* Kaumuali'i submitted Kaua'i and Ni'ihau to Kamehameha I's rule, thereby bringing all of the islands under one central government.

The death of Kamehameha I in 1819 precipitated a political crisis for the High Chiefs who had allied with Kamehameha and were part of his government. Rival chiefs, claiming ritual authority to rule under traditional Hawaiian religion, rallied around *Ali'i Nui* Kekuaokalani and rebelled against the central government. It became necessary for the central government to suppress this challenge by abolishing the institution that gave it credence, the traditional religion. In November 1819, Kamehameha II held a gathering with his *ali'i nui* at Kailua, Kona. He had a feast prepared with two tables set, one for men and one for women—men and women were not permitted to eat together. When all was ready, Kamehameha II sat with the women and ate. By this action, the King had broken the covenants of traditional Hawaiian religion. The traditional restrictions imposed on society were lifted. This event is known as the *'Ai Noa*. It is interesting that one of the wives of Kamehameha I, Keopuolani, associated the rebellion of the ritual chiefs with Kaho'olawe. She is recorded as having referred to Kekuaokalani, the leader of the rebellious



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chiefs as “an uku, a fish of Kaho`olawe,” He uku maoli ia, he i`a no Kaho`olawe, meaning that he was a rebel.

It is important to note that while the chiefly and state rituals and *heiau* were abolished by the `Ai Noa, traditional spiritual beliefs and the relation of the people to their ancestral deities and to the life forces of nature and land continued to be the basis of Native Hawaiian cultural values, practices, and customs. Native Hawaiian families continued to honor their family ancestral spirits and to care for the bones of their ancestors. Family members continued to plant, fish, hunt, and gather in accordance with traditional practices. They continued to call upon their deities to draw out the healing powers of native plant species used for traditional herbal medicine, and they continued to observe, read, and interpret natural phenomena as signs for guidance in their daily lives.

These practices remained strong in isolated rural areas in the Hawaiian islands. The islands of Moloka`i and Kaho`olawe, in particular, served as a refuge for these practices and beliefs.

### Missionary Period (1825-1853)

In 1820, shortly after the `Ai Noa had been accomplished, Puritan missionaries from the Boston Missionary Society arrived to fill the religious void. The newly arrived missionaries began building churches and quickly established schools throughout the Kingdom for the teaching of reading and writing—the basic skills they believed the Hawaiians needed to understand the Bible. Early missionary accounts speak of the thousands of Hawaiians who were quick and eager to learn.<sup>19</sup> By 1840, the Hawaiian Kingdom had become one of the more literate countries in the world.

Kaho`olawe was considered part of the Maui mission, which was directed by the Reverend William Richards. Richards first reported on Kaho`olawe in 1825. By 1828, he had a school on the island with a total of “28 scholars attending.”<sup>20</sup> The school continued until about 1838.

During this period, religious intolerance in the Kingdom was strong. The king and his *ali`i* made it clear that they subscribed to Protestant Christianity. *Kuhina Nui* Ka`ahumanu, proclaimed in the Edict of 1829, that as one of several identified punishments,

all Catholics would be banished to Kaho`olawe.<sup>21</sup> There is no evidence, however, that any Catholics were actually sent to the island.

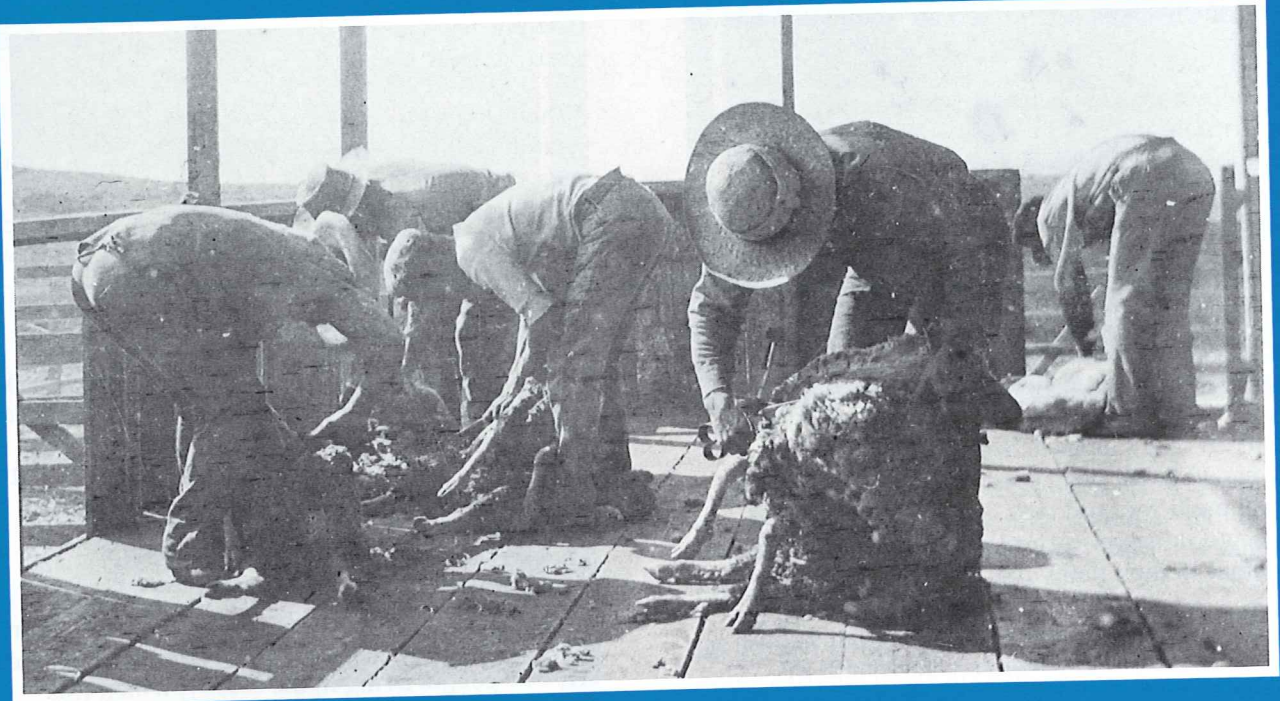
Whether the Edict set the stage, or whether the island had already been used for the exile of criminals, following its signing, Kaho`olawe became known as a penal colony. In 1832, correspondence from the Reverend Hiram Bingham mentions that a youth, “the son of a foreigner,” was sentenced to Kaho`olawe for manslaughter, and refers to the island as “a sort of state’s prison.”<sup>22</sup> Hawaiian historian Samuel Kamakau has reported that during this period Kaho`olawe and Lana`i served as penal colonies—the former for men and the latter for women—and that crimes such as “rebellion, theft, divorce, breaking marriage vows, murder, and prostitution” were punished with terms on these islands.<sup>23</sup>

Penal colony headquarters were located at Kaulana Bay on Kaho`olawe’s northern coast.<sup>24</sup> In 1840, there were 80 people living in the colony, which was overseen by an *ali`i* from Maui named Keawemahi Kinimaka. Kinimaka was placed in charge of the colony after having been sent there for supposedly forging the signature of Hoapili, the *ali`i nui* of Maui.<sup>25</sup> However, there is some question as to his actual culpability. In the years that followed, native and non-natives alike were exiled to the island. Among the exiles was foreigner George Morgan, who committed a series of burglaries throughout Honolulu.<sup>26</sup> Five years after his exile, Morgan was removed from the island in ill-health and close to starvation. With his removal, Kaho`olawe’s era as a penal colony ended. On May 2, 1853, by action of the Privy Council, all exiles still on the island were pardoned.

Kaho`olawe’s first encounter with the U.S. military came in 1841 when crews from the *Leopard* and *Greyhound*—two small vessels under the command of Lieutenant Budd—were marooned on the island. Budd and his crews were a part of Captain Charles Wilkes’ Pacific expedition. The *Leopard* and *Greyhound* were wrecked on the western end of Kaho`olawe, probably at Hanakanaia. When the castaways reached shore, they made contact with Kinimaka, who provided them with food, supplies, and canoe transportation to Lahaina. From Lahaina, Budd and his crews rejoined Wilkes and continued their expedition.<sup>27</sup>



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*Sheepshearing on Kahoʻolawe in the 1890s  
(Photo Courtesy Bishop Museum)*

Budd later reported that there were 15 convicts on Kahoʻolawe, and that “the settlements consist[ed] of 8 huts and an unfinished adobe church. One or two other houses inhabited by old women are said to be located on the north end of the island.”<sup>28</sup>

### Early Ranch Period (1853-1910)

During Kahoʻolawe’s Early Ranch Period, Hawaiʻi continued to undergo extensive political and social change. In 1848, King Kamehameha III initiated a land reform package known as the Great Mahele—its impact proved to be momentous. Under this reform, the traditional Native Hawaiian concept of land stewardship was replaced with the Western legal concept of ownership. Ownership of lands was divided between the King and his *aliʻi*, with portions set aside for government use. Processes were also established for the award of lands to private individuals.<sup>29</sup> It was as a result of this land reform package that Kahoʻolawe became “government land”—a status it has maintained until today, although there have been periodic offers for its purchase since 1849. One such offer came from Maui resident Zorobabela Kaawai, a member of the

first Land Commission, and C.C. Harris. Their offer of \$400.00 was refused by the King’s Privy Council, which preferred to lease the island.

In 1857, Kamehameha V sent Maui Governor P. Nahaulelua and Loane Richardson to survey Kahoʻolawe. Their report, and a second survey by William F. Allen in 1858, are the first known comprehensive written descriptions of the island.<sup>30</sup> Following the survey, the government issued the first of four leases for Kahoʻolawe. Signed on April 1, 1858, the lease called for the payment of \$505.00 per year for use of the island. The lessee was Robert C. Wyllie.

Wyllie introduced sheep to the island and developed a large ranching operation. When his sheep became infected by a form of scabies in 1859, he transferred his lease to other ranchers.

Over the remainder of this period, successive leases and subleases were let for a variety of ranching operations (Appendix 6). As a result, by 1884, more than 9,000 goats and 12,000 sheep grazed on the hills and in the gullies of Kahoʻolawe.<sup>31</sup> Over-grazing soon began to take its toll—soil erosion became a



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significant problem. The ranchers began the first of many attempts to stem soil erosion by planting new vegetation in the late 1880s. *Kiawe*, or mesquite, (*Prosopis pallida*) was introduced and began to establish itself along the coast at this time.

The first recorded government census of Kaho`olawe alone was conducted in 1866. Prior censuses had included Kaho`olawe residents with residents from districts on Maui. Most, if not all, of the individuals noted in the 1866 census were involved with sheep ranching on the island and probably lived at Ahupu.<sup>32</sup>

Between January 16 and 17, 1893, the Hawaiian Monarchy was overthrown ostensibly by American businessmen with backing from U.S. Naval forces on the *U.S.S. Boston*, which was anchored in Honolulu Harbor. At the request of U.S. Minister John L. Stevens, a force of 162 sailors and Marines landed in downtown Honolulu to support the revolutionaries. Fearing bloodshed, Queen Lili`uokalani yielded to the superior power of the United States, in the following, carefully worded, statement.<sup>33</sup>

I, Lili`uokalani, by the Grace of God and under the Constitution of the Kingdom, Queen, do hereby solemnly protest against any and all acts done against myself and the constitutional Government of the Hawaiian Kingdom by certain persons claiming to have established a provisional government of and for this Kingdom. . . .

That I yield to the superior force of the United States of America, whose minister plenipotentiary, His Excellence John L. Stevens, has caused United States troops to be landed at Honolulu and declared that he would support the said provisional government.

Now, to avoid any collision of armed forces and perhaps loss of life, I do under this protest, and impelled by said force, yield my authority until such time as the Government of the United States shall, upon the facts being presented to it, undo the action of its representatives and reinstate me in the authority which I claim as the constitutional sovereign of the Hawaiian Islands.

*Queen Lili`uokalani*

With the passing of the Monarchy, the assets of the Crown and Government became exceedingly important to the self-proclaimed Provisional Government and, later, to the self-identified Republic of Hawai`i. Kaho`olawe retained its status as Government land under the new regime. When the U.S. Congress passed the 1898 Newlands Resolution, which made Hawai`i a Territory of the United States, Government and Crown lands were transferred, or ceded, to the U.S. Government. Kaho`olawe now became the property of the United States. In recognition of Hawai`i's unique land history, however, the U.S. Congress continued to allow the new Territory of Hawai`i to manage all lands not needed for the purposes of the United States. This agreement was recognized in 1900 with passage of the Organic Act. Thus, Kaho`olawe remained under territorial management with a ranch lease—first to a local businessman, Ben Dillingham, and then Eben Low. The lease continued until 1910.<sup>34</sup>

### Forest Reserve Period (1910-1918)

By 1910, Kaho`olawe's soil erosion problems were continuing virtually unchecked. A report to the Territorial Board of Agriculture noted that "as a result of long continued over grazing this little island, once a valuable asset to the Territory, has become almost worthless through erosion and loss of soil." On-going discussions were also occurring between federal and territorial officials on using Kaho`olawe to test scientific hypotheses relating to relationships between rainfall and forest cover. In earlier times, chants referred to the *na`ulu rains*, which would form over Kaho`olawe and drift into Kihei on Maui. With Kaho`olawe's interior devastated by erosion and the upland forests of Haleakala eliminated, these rains had ceased. The designation of Kaho`olawe as a forest reserve brought about the possibility of receiving federal funds to attempt to bring back these rains.

The federal funds never materialized and, realizing that goats continued to roam the island unchecked, the Governor revoked Kaho`olawe's Forest Reserve status in 1918 and transferred the island to the Commissioner of Public Lands for public lease.

### Late Ranch Period (1918-1941)

The Commissioner of Public Lands developed a lease that required the lessee to eliminate all goats from the island, limit the number of cattle on the



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*Cattle ranching in the 1900s—roundup time*  
(Photo Courtesy Hawaii State Archives)



*The Manuel Pedro family*  
(Photo Courtesy Bishop Museum)

island to 200 head, and undertake revegetation efforts using *kiawe*. The lease was let to Maui businessman Angus MacPhee in December 1918. Within two years, MacPhee joined forces with another Maui businessman, Harry Baldwin, to form the Kahoolawe Ranch Company. Their lease continued until 1952.

During this period, ranch headquarters were established at Kuheia Bay, a water system based on cisterns and reservoirs was constructed, and the island's goat population was reduced. Ranch operations were ably directed by a Portuguese immigrant from Kohala, Hawai'i, named Manuel Pedro. Pedro called Kaho'olawe home. He, and his Native Hawaiian wife, Hattie Ko'opua, lived and raised a family on the ranch until 1941, when war forced its closure.

The first Army aviation unit arrived in Hawai'i in July 1913. By 1925, inter-island flights were quite common. Kaho'olawe came under the military's eye in the late 1920s when air power was just beginning to develop in Hawai'i. In those days, military planes operated under the command of the Army Air Corps.



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On January 15, 1925, a fleet of five planes under the command of Captain Donald Muse took off from Luke Field (Ford Island) and flew to Kahoʻolawe. All planes landed successfully, however, a *Honolulu Advertiser* account of the event reported, "A whirlwind of a storm centered exactly over the planes, and for fully an hour drenched the ships and their passengers." The flight in those days took three hours for the 160-mile round trip.<sup>35</sup>

During the 1920s and 1930s, the United States military occasionally used Kahoʻolawe for bombing practice. In those days, Army pilots would hang out of their bi-wing planes and drop hand-held bombs from their cockpits. Oral history has it that Harry Baldwin had an arrangement with the Army that permitted pilots to practice target drops on an isolated portion at the western end of the island. In an interview with the Commission, Manuel Pedro's son, David, recalled sometimes hearing the sound of bombs exploding on the far side of the island when he was a child.<sup>36</sup>

This era has generated a great deal of interest about Kahoʻolawe for the island seemed to cast a spell over those who were touched by it. The writings of Armine Von Tempsky and Inez Ashdown reflect this spiritual aspect of the island.

### Military Period (1941-1978)

In 1941, approximately seven months before the Japanese bombing of Pearl Harbor, Baldwin and MacPhee formalized an agreement with the United States to enable the Army Air Corps to use portions

of the island for bombing practice.<sup>37</sup> The sublease with the United States of America was signed on May 10, 1941. It called for the Government to pay \$1.00 per year and allowed the Navy to set out a runway with fake aircraft and to begin using the area for target practice. The U.S. Navy also requested use of the island to test its warships' guns at this time. The new agreement became moot on December 7, 1941. With the attack of Pearl Harbor, all island ranching activities ceased and the military command took over when martial law was declared on December 8, 1941. From that moment, the history of Kahoʻolawe is one of military use.

One of the first acts of the Army was to commandeer Kahoolawe Ranch's boat, *Maizie C*, and place it into military service. The ranch received compensation for the boat, but was unable to continue ranching operations because it no longer had a means for moving materials and cattle from Kahoʻolawe to Maui.<sup>38</sup>

The U.S. Navy's official use of Kahoʻolawe began in early in the war. Surface units "from time to time utilized the southwestern part (west of longitude 156.40) for bombardment training."<sup>39</sup> Permission to use the island for bombardment was by verbal agreement between U.S. Army and Navy officials. As the war progressed, Naval use of the island increased.

During the war, Kahoʻolawe played a major role as a training site for Navy ship gunners and Marine fire control observers. In 1946, the *Honolulu Star-Bulletin* reported that "... at various times, 800 ships ranging from destroyer escorts to battle wagons rehearsed for the day they would fire in support of marine landings."<sup>40</sup> The rehearsals prepared Marines for the landing at Iwo Jima, Okinawa, and other sites throughout the southwest Pacific.

Just four months after the Navy began bombardment exercises on Kahoʻolawe, Territorial officials were discussing how best to "rehabilitate" the island. The *Honolulu Star-Bulletin* reported, "members of the newly appointed Board of Agriculture and Forestry are interested in rehabilitating the island. All cattle were removed from Kahoʻolawe . . . and the island is now uninhabited except by thousands of wild sheep. The sheep are eating and tramping the salt grass and other vegetation to such an extent that further serious erosion damage is feared . . ."<sup>41</sup>



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*Sailor's Hat*  
(Photo Courtesy Ray Mains)

At war's end, Kahoʻolawe returned to a relatively peaceful existence, serving as an occasional site for joint operations for naval shore bombardment and air support from fighter planes.

As the termination date for the Kahoʻolawe Ranch lease approached, military leaders in Hawaiʻi became increasingly concerned over whether they would be allowed to continue to use the island for military training. As early as 1947, Territorial government officials raised issues concerning the military's continued presence; identified a number of other uses for the island, including human habitation; and expressed a need to undertake extensive soil conservation measures to begin addressing ongoing erosional problems. Fearing condemnation, Territorial officials eventually agreed to continued military use of the island. That agreement was finalized with President Dwight D. Eisenhower's signing of Executive Order No. 10436 in 1953. The Order "reserved Kahoʻolawe . . . for the use of the United States for naval purposes," placing it under the jurisdiction of the Secretary of the Navy.<sup>42</sup>

When Hawaiʻi became a state in 1959, provisions of the Statehood Admission Act specifically addressed how lands such as Kahoʻolawe were to be handled. Kahoʻolawe was part of a larger corpus of former Crown and Government Lands ceded to the United States in 1898. As a result of Executive Order No. 10436, Kahoʻolawe remained under military jurisdiction, continuing to serve as a military training facility during the Korean and Vietnamese conflicts.

One of actions of the military during the Vietnam era resulted in a crater that is approximately 100 feet wide and extends below sea level. In February 1965, the Navy and the former Atomic Energy Commission detonated 500 tons of TNT at a site near Hanakanaia Bay to simulate the effects that an atomic blast would have on nearby ships. The blast was detonated with three manned vessels moored at varying distances from the island's shore: the *U.S.S. Atlanta* at 2,000 feet; the Canadian destroyer *R.C.N. Fraser* at 3,000 feet; and the *U.S.S. Cochrane* at 4,000 feet. No one was injured by the blast; however, one sailor reported that flying rocks hurled out by the explosion were a major hazard and that "... The force of the blast shoved the moored ships aside, but except for that it was just one more big boom. . . ."<sup>43</sup> The crater created by the blast, measuring 100 feet in diameter and 15 feet deep, has been named Sailor's Hat. Today, it is an anchialine pond that serves as habitat for the endangered shrimp species ʻopae ʻula (*Halocaridina rubra*).<sup>44</sup>

Territorial officials continued to raise the issue of the return of Kahoʻolawe to local control after statehood, but to no avail.<sup>45</sup> Kahoʻolawe's environment continued to degenerate; goat populations remained unchecked, and all revegetative efforts ceased—despite the requirements of Executive Order No. 10436.

By 1970, efforts on behalf of Kahoʻolawe's return to state control gained strength.

- In September 1970, U.S. Senator Hiram Fong requested that the U.S. Navy halt bombing on Kahoʻolawe within two years.<sup>46</sup>
- In 1971, Maui Mayor Elmer Cravalho and Life of the Land—a local environmental organization—filed suit in U.S. District Court for the District of Hawaiʻi to stop the bombing of Kahoʻolawe and to require compliance with environmental law by preparing an Environmental Impact Statement (EIS) for military activities on the island. Although the case was eventually dismissed, federal Judge Nils Tavares ordered the Navy to complete an EIS.<sup>47</sup>
- In February 1973, Charles Maxwell, then of Aloha Association, a newly formed Hawaiian organization, proposed the return of Kahoʻolawe to Native Hawaiians.<sup>48</sup>
- In January 1976, a group of nine Native Hawaiians and sympathizers ventured across the Alalakeiki Channel to Kahoʻolawe to show



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their commitment to a halt to federal control and naval bombing of the island.<sup>49</sup> The actions of the "Kaho`olawe Nine" marked the beginning of a new era of awareness and commitment to resolve the Kaho`olawe issue. Organized landings on Kaho`olawe between 1976 and 1977 brought national attention to the island.

- In 1977, two young Native Hawaiian leaders, George Helm and James Kimo Mitchell, lost their lives during an effort to protest the military's continued bombing of the island.<sup>50</sup>
- In 1976, Hawaiian physician, Noa Emmett Aluli, M.D., and the Protect Kaho`olawe `Ohana, an organization formed to call attention to issues related to Kaho`olawe, filed a civil suit, *Aluli v. Rumsfeld*, in U.S. District Court in the District of Hawai`i. The suit sought compliance by the U.S. Navy with environmental, historic preservation, and religious freedoms laws.<sup>51</sup> On September 15, 1977, the federal court ordered a partial summary judgment in favor of Aluli and the Protect Kaho`olawe `Ohana, requiring the Navy to prepare an EIS and to inventory and protect historic sites on the island.<sup>52</sup> As one result of this decision, the entire island of

*I am well aware of the importance of Kahoolawe, particularly as it pertains to the native heritage of the Hawaiian people.*

W. Graham Claytor, Jr., Secretary of the Navy  
Honolulu Star-Bulletin, April 8, 1977.

Kaho`olawe was designated a Historic District by the National Register of Historic Places in 1981.

- In 1977, members of the Protect Kaho`olawe `Ohana continued to press for Kaho`olawe's return. A year later, while the EIS and historic sites survey were being conducted, the State of Hawai`i and the U.S. Navy signed a Memorandum of Understanding under which both parties agreed to cooperate on programs that would eliminate goats, revegetate the island, and protect archaeological sites.

### Joint-Use Period (1980-Present)

In 1980, the court settled *Aluli v. Brown*, formerly *Rumsfeld*, by issuing a Consent Decree mandating the Navy to survey and protect historic and cultural sites on the island; clear surface ordnance from 10,000 acres; begin soil conservation and revegetation programs; eradicate goats; and limit ordnance impact training to the central third of the island. The Decree further acknowledged that the Protect Kaho`olawe `Ohana was seeking recognition as "steward" of the island, and allowed the `Ohana access to the island for religious, educational, and scientific activities.<sup>53</sup>

Since 1980, more than 4,000 people have visited Kaho`olawe with the Protect Kaho`olawe `Ohana. The military has cleared ordnance from the surface of an estimated 14,000 acres, and the goats have been eliminated. The `Ohana, the State of Hawai`i, and the U.S. Navy have initiated soil conservation and revegetation programs, and the island's natural resources are beginning to show signs of restoration and revival.<sup>54</sup> The most recent action affecting Kaho`olawe occurred on October 22, 1990, when President George Bush issued a Memorandum to the Secretary of Defense to put a temporary halt to all bombing and munitions training on the island. Following this action, the U.S. Congress established the Kaho`olawe Island Conveyance Commission and provided it with funding necessary to fulfill its congressional mandate—studying the island of Kaho`olawe and recommending the terms and conditions for the island's return to the State of Hawai`i.

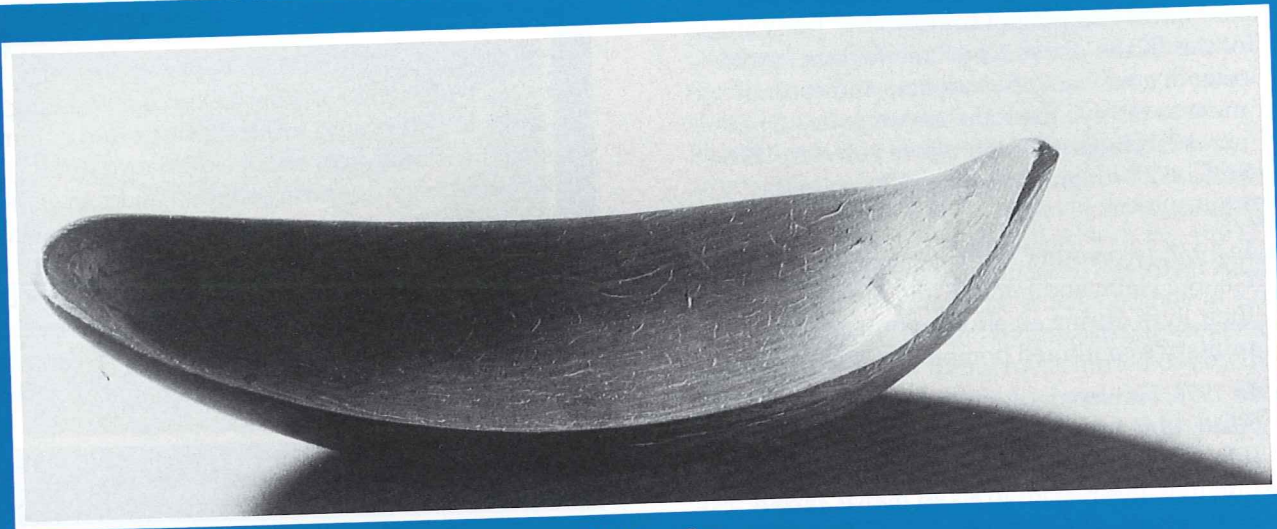
### The Cultural Thread

The thread of Native Hawaiian culture weaves throughout Kaho`olawe's prehistory and history, binding the contemporary with the ancient. Glimpses of Kaho`olawe's importance as a special place, a *wahi pana*, and as a sanctuary, a *pu`uhonua*, are gleaned in its legends and chants and historical events. It remains a place where traditional ceremonies are held and practices observed; a continuum for culture.

In ancient times, legends and chants indicate that Kaho`olawe served as a stronghold for *kahuna* of the Kanaloa priesthood. As the long voyages between Tahiti and Hawai`i ceased and a distinctly Native Hawaiian culture began to emerge, the *Kahuna* of



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*The 'Awa Cup*  
(Photo Courtesy of the Berne Historical Museum)

*Kane* and *Ku* came to the forefront. Kaho`olawe was excluded from the mainstream of political and religious activity, but continued as a place where those loyal to *Kanaloa* could go and practice. This continued even after 1820 and the *'Ai noa*. Shortly thereafter, the King and the Council of Chiefs ordered the destruction of the *heiau* and the burning of godly images. Despite these actions, traditional religious practices continued in the rural communities and settlements in the Kingdom and on Kaho`olawe. Although Native Hawaiian religion ceased to have the official sanction of the King and his *Ali'i-nui*, it continued but was "hidden" and practiced in secret by many Native Hawaiian families. Kaho`olawe served as a sanctuary, a *pu'uhonua*, for the traditional religion. It is noteworthy that in 1827, the wife of Maui's *ali'i*, Hoapiliwahine, journeyed to Kaho`olawe and returned with an *'awa* cup and a wooden image—both indications that the traditional religion continued to be practiced on the island.<sup>55</sup>

The *Kuhina nui* of the Kingdom under Kamehameha II, Ka`ahumanu, who many also identify as the force behind the *'Ai noa*, also was responsible for making Kaho`olawe a penal colony. Her selection of Kaho`olawe for that purpose was not accidental. Ka`ahumanu eagerly converted to Protestant Christianity. Her issuance of the Edict of 1829, which basically adopted the Ten Commandments into the laws of the Kingdom, was a testament to

that conversion. Her aversion to those who practiced the old ways was just as strong as her aversion to those who practiced other forms of Christianity. Thus, in her view, banishment to Kaho`olawe was a just punishment for those who did not hold her beliefs. And yet, by this action, Kaho`olawe again served as a *pu'uhonua*, a sanctuary, for those sent there.

In 1874, another Hawaiian King, David La`amea Kalakaua, ascended the throne. Unlike his predecessors, Kalakaua looked to the traditional ways for guidance. He restored the hula and brought into the palace many of the traditional practitioners. It was appropriate, then, that Kaho`olawe would figure into his life. Earlier that year, Hawai'i's first elected King, William Charles Lunalilo, died and was interred at Mauna `Ala, the Royal Mausoleum. Lunalilo had not wanted to be buried there and in 1875, Kalakaua moved him to his final resting place at Kawaiahae Church. Once the reinterment was completed, Kalakaua's *kahuna* suggested that he visit Kaho`olawe to cleanse himself. In December 1875, the Royal party departed for Kaho`olawe.<sup>56</sup>

At 4:30 a.m. . . . the steamer left Lahaina bearing to the east slightly south on Kahoolawe where there is a harbor; and at 7:00 a.m. We entered the harbor of Hokokoa, which is near the famous cape . . . Kealaikahiki. The paddlers on both



## From Mists of Time to Clouds of Dust

*"The `aina is also an important part of our culture, for it is where our ancestors are buried and it is the place where their spirits roam. The `aina is where our ancestors put down their roots, where we continue to lay down our roots, and where we grow and breathe. We, the Hawaiians, are able to grasp our true history and culture through the `aina."*

*Anna Kon, Hilo Public Hearing, May 8, 1991.*

sides—on that of the King's and on that of the Governor's—were as quick and as lively as the rowboat beneath. As the King prepared to sail toward land, the *Kilauea* left us. . . We set forth upland on Kahoolawe, land upon the beach shivering from the spray of wave action . . .

When the King, the Governor . . . and all the rest of the court companions and paddlers on both rowboats on the shore had landed, the King stepped out on canvas laid from the house to the edge of the shore and was appropriately attended to by the warm, generous, residents of this island who have great affection for their King. Likewise were we enjoyably engaged on the sand dune, basking in the warmth of the sun. After a few short minutes, food for breakfast was prepared . . . The house with its dark leaves of the forest was aged yet, a glimpse of the abundance of food . . . was pleasant and splendid; from them came the welcome and we were immersed in abundancy . . .

Kalakaua's visit occurred during Kaho`olawe's early sheep ranching period. Even during this period of activity on the island, it continued to serve as a recognized *wahi pana* and *pu`uhonua*.

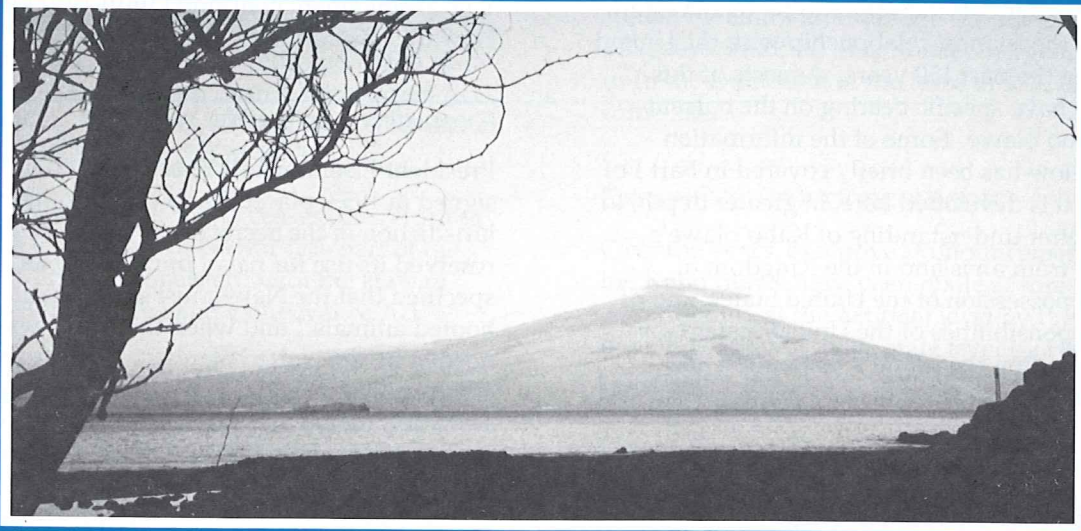
As with other locations in Hawai`i, there have been individuals affiliated with Kaho`olawe who have served as the island's *kahu `aina*. That tradition continued even after martial law was declared in 1941 and all but military personnel were banned from the island. History records the names of Maikai Keliikili, B. Auhana Akina, Jack Aina, and Ronald Von Tempsky as some of the past *kahu `aina* of the island. Since 1941, despite military use of the island, a number of Native Hawaiian families have continued to visit Kaho`olawe for religious and ceremonial purposes. The activities of the Protect Kaho`olawe `Ohana in 1976 brought this situation into public view. What had always been a very personal and quiet relationship with the island among many Native Hawaiian families became a public issue.

Since 1976, members of the Protect Kaho`olawe `Ohana have continued to maintain the practices and traditions of Kaho`olawe in the spirit of the *kahu `aina* who preceded them. Many *kupuna* have retained specific knowledge about the island and have assisted the `Ohana in its efforts. Uncle Harry Kunihi Mitchell, Auntie Emma DeFries, Auntie Mary Lee, and Auntie Edith Kanaka`ole deserve special recognition in this regard. Because of their efforts and those of other *kupuna*, the `Ohana has kept glimpses of the island's past traditions and culture alive. Kaho`olawe is a place where traditional and contemporary Native Hawaiian culture can be practiced in safety; it continues to be a *wahi pana* and serves as a *pu`uhonua* as it has for generations of Native Hawaiians and others who have visited its shores, lived upon its lands, and fished in its surrounding waters.

On August 22, 1992, a rededication ceremony in the Native Hawaiian tradition was held on Kaho`olawe, with participation by the Governor of Hawai`i and members of Hawai`i's congressional delegation. It was the only appropriate place in Hawai`i where such a ceremony could have been held.



# PART II



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## Aspects of Kahoʻolawe's Land History Affect Its Current Status

*A View of Maui from Kahoʻolawe  
(Photo courtesy Rowland Reeve)*

## Restoring a Cultural Treasure

**H**awai'i has a land history unlike any other state in the United States. This history stems from the development of a traditional Hawaiian land tenure system, its incorporation into a Western system, and the islands' relationship with the United States during the past 150 years. Aspects of this land history have specific bearing on the current status of Kaho'olawe. Some of the information provided below has been briefly covered in Part I of this report. It is developed here, in greater depth, to provide a better understanding of Kaho'olawe's progression from an island in the Kingdom of Hawaii to a possession of the United States; and of the legal responsibilities of the United States Government regarding the island's restoration and revegetation and its return to state management and control.

### From Ceded Land to U.S. Government Property

At the turn of the 18th century, Hawai'i emerged on the world scene as an independent Kingdom governed by a monarchy headed by Kamehameha I. All lands in the Kingdom belonged to the King who held them in trust for his subjects. This remained the case until 1848, when King Kamehameha III initiated a series of land reform acts that recognized the concept of fee title and divided land ownership in the Kingdom between the Crown, the chiefs, the government, and "commoners"—a process that continued over a 20-year period.<sup>57</sup>

### The Annexation of Hawai'i

Prior to 1848, Kaho'olawe was an integral part of the Kingdom; in 1848, however, when the Kingdom's lands were divided, the island was declared "government land." It remained so for the next 50 years. In 1898, when the U.S. Congress annexed Hawai'i by resolution, the Joint Resolution of Annexation (30 Stat. 750)—more commonly known as the Newlands Resolution—all former government and Crown lands were ceded to the United States. These lands were then combined into the Public Land Trust. Kaho'olawe, therefore, became part of this land trust. The Hawaii Organic Act (31 Stat. 141) passed by the Congress in 1900, recognized the special

status of this Public Land Trust and affirmed that management responsibility for the trust would reside with the Territorial Government of Hawai'i. This arrangement continued until 1959 when Hawai'i was admitted to the Union.

### Executive Order No. 10436

President Eisenhower's Executive Order No. 10436, signed in 1953, placed Kaho'olawe under the jurisdiction of the Secretary of the Navy and reserved its use for naval purposes. The order also specified that the Navy must eradicate all "cloven-hoofed animals;" and when the island was no longer needed by the United States, "... notify the Territory of Hawaii, and shall, upon seasonable request of the Territory, render such area, or such portions thereof, reasonably safe for human habitation, without cost to the Territory."

### The Act of Statehood

The Hawai'i Admission Act of 1959 (Public Law 86-3, 73 Stat 4) provided that, as part of the statehood compact, the United States Government would return to the new Hawai'i state government all ceded lands except those set aside by any:

- Act of Congress;
- Executive Order;
- Presidential Proclamation;
- Gubernatorial Proclamation; or
- Written or verbal permit, license, or permission from the Territory.

The Act further provided that these lands and the income and proceeds derived from them were to be held by the state as a public trust for five distinct purposes benefiting two distinct beneficiary classes: members of the general public and Native Hawaiians, as defined in the Hawaiian Homes Commission Act of 1920. In addition to the betterment of conditions of Native Hawaiians, these lands and their income and proceeds were to be used to support public schools and other educational institutions; develop farm and home ownership; make public improvements; provide land for public use.<sup>58</sup>



## Aspects of Kaho`olawe's Land History Affect Its Current Status

Kaho`olawe remained under federal control after Hawaiian statehood as a result of Executive Order No. 10436.

### Further Definition of the Return of Ceded Lands

In 1963, the Congress further defined how these former ceded lands were to be returned to the state in the Hawaii Revised Conveyance Procedures Act of 1963 (Public Law 88-233, 77 Stat. 472), also known as the Land Conveyance Act of 1963.

Once military use of the island ceases, the return of Kaho`olawe to the State of Hawai`i, as part of the Public Land Trust, is consistent with the Hawaii Admission Act and the Land Conveyance Act.<sup>59</sup>

### Government Responses

Kaho`olawe has been the subject of extensive governmental activity since World War II. That activity falls into the categories of executive pronouncements, legislative actions, and court decisions. These government actions provide insights into Kaho`olawe's value, its ongoing role within the Hawaiian Islands, and the sometimes tenuous relationships between county, state, and federal governments.

In May 1941, the lessee of Kaho`olawe, the Kahoolawe Ranch Company, signed a one-year sublease with the United States allowing the federal government to utilize "any and all portions" of the island for "military purposes"—provided that those purposes did not interfere with existing ranch operations. The Kahoolawe Ranch Company's territorial lease to Kaho`olawe was valid until 1952. The sublease agreement brought to conclusion a process begun nearly two years before, when the Commander of the U.S. Army in Hawai`i, Major General C.D. Herron, wrote to Acting Territorial Governor C. M. Hite to request "the use of Molokea (sic.) and Kihewamoku rocks off the windward coast of O`ahu, and for the authority to negotiate with Mr. Harry Baldwin for a portion of Kaho`olawe island." The Acting Governor declined General Herron's request for use of O`ahu's offshore islands, but approved the request to make contact with Baldwin.<sup>60</sup> Baldwin eventually agreed to the Army's request for use of Kaho`olawe. In correspondence with A. A. Dunn, Acting Commissioner of Public

Lands for the Territory, a few years later, Baldwin recalled that drought had severely impacted his ranching operations and that most of his cattle had to be moved to Maui. Seven months after the sublease signing, Pearl Harbor was attacked and martial law declared. During the war, two supplemental agreements with the War Department, signed by Baldwin, extended the sublease for as long as a condition of national emergency existed or until the expiration of the lease in 1952, whichever came later.<sup>61</sup>

### Executive Pronouncements

Over the years, executive pronouncements concerning Kaho`olawe have been made at three levels of government: at the national level by Presidents of the United States, at the state level by Hawai`i's Governors, and at the county level by Maui County's Mayors.

Most of the executive pronouncements of the past 50 years have been directed toward stopping or limiting ordnance training on Kaho`olawe and returning the island to local control in Hawai`i. The one major exception is Executive Order No. 10436, which placed the island under the authority of the Secretary of the Navy in 1953. Major executive pronouncements are detailed in Appendix 7.

### Legislative Actions

Legislative actions concerning Kaho`olawe have occurred at the national, state, and county levels consistently during the past 50 years. Since 1970, Hawai`i's congressional delegation has introduced more than 10 bills in the U.S. Congress relating to the Kaho`olawe issue. At the state level, more than 35 bills and resolutions have been introduced since the early 1960s. All have focused on:

- Stopping ordnance training on the island;
- Restoring the island;
- Returning the island to state control; and
- Combinations thereof.

A listing of the major actions is provided in Appendix 8.

## Restoring a Cultural Treasure

### Court Decisions

Because Kaho`olawe has been under federal control for the past 50 years, territorial and state courts have not been involved with issues concerning the island. During the past 20 years, however, a number of important federal court actions and decisions have had a dramatic impact on Kaho`olawe and the U.S. Navy's relationship with Hawai`i's local community. Many of these actions and decisions grew from civil disobedience by Native Hawaiians and other members of the general public protesting the U.S. Navy's continued presence on Kaho`olawe. Among these decisions, which are listed in Appendix 9, is a partial summary judgment issued by U.S. District Judge Dick Yin Wong in 1977, and the Consent Decree and Order issued by U.S. District Judge William W. Schwarzer in 1980, in *Aluli v. Brown*. It

is particularly noteworthy that Native Hawaiians, a good portion of Hawai`i's general public, and numerous public and private institutions have formed alliances over the legal issues surrounding Kaho`olawe. These alliances were strengthened and tempered by the loss of two Native Hawaiians who died in 1977 while protesting continued federal control of the island. These alliances remain intact today.

When the U.S. Congress acts on recommendations presented in this report, the half-century era of federal government control of Kaho`olawe will close. In retrospect, the events and the resulting forces occurring at all levels of government during this era clearly indicate the direction towards which the island has been moving. A new chapter in the island's story is about to be written.



# PART III



## Public Sentiment About Kaho`olawe

*Rene Sylva gives testimony to the Commission concerning the use of native plants for Kaho`olawe revegetation efforts  
(Photo courtesy Jill Engledow)*

In recent times, few issues of land control, management, and use have brought so many in Hawai'i together toward a common goal. The future of Kaho'olawe Island is one. Countless residents of the State of Hawai'i—Native Hawaiians and others who call Hawaii home—have devoted time, energy, and financial resources to the resolution of the issues surrounding this island.

Public testimony presented at Kaho'olawe Island Conveyance Commission (KICC) hearings, together with results from public opinion polls conducted in 1992, speak to the importance residents of Hawai'i attach to Kaho'olawe.

### Testimony to the Commission

From April 1991 to May 1991, KICC held eight public hearings throughout the State of Hawai'i. The public was invited to attend and welcomed to address, in written or oral form, five issues concerning Kaho'olawe.

- Significant cultural history
- Restoration and rehabilitation
- Future use
- Military use
- Title to and jurisdiction over

Two hundred and fifty-two people, including members of the Hawaii Congressional Delegation, representatives of the various military services, the State of Hawai'i, and the County of Maui, presented testimony at the public hearings. The majority of presenters spoke as individuals or as representatives of their constituencies. An additional 26 testimonies were received through the mail, including 2 petitions with 360 signatures. An analysis of the information presented shows that of those who participated in the hearings:

- 68 percent believe that Kaho'olawe has historic, cultural, and religious significance for the people of Hawai'i;
- 67 percent believe that Kaho'olawe must be restored and rehabilitated through reforestation, revegetation, erosion control, alien plant and animal eradication and the reintroduction of native plant species;

- 60 percent believe that commercialism should be banned on the island and in its surrounding waters;
- 73 percent believe that Kaho'olawe should be designated as a cultural and educational center;
- 77 percent believe that all bombing and military use should cease;
- 77 percent believe that the military should clean up the island in accordance with Presidential Executive Order No. 10436;
- 77 percent believe that the federal government must fund the cost of ordnance removal;
- 78 percent believe that Kaho'olawe should be returned to the people of Hawai'i; and
- 79 percent believe that Kaho'olawe should be given into the stewardship of the Protect Kaho'olawe 'Ohana and held by the State of Hawai'i until some form of sovereignty for Native Hawaiians is recognized.

### Public Opinion Polls

Various public opinion polls also show strong support for the early return of Kaho'olawe to the State of Hawai'i and for the end of military use and federal control.

In January 1992, the Governor of Hawai'i's Office of State Planning conducted a statewide sample survey to ascertain public opinion on issues surrounding Kaho'olawe. More than 1,200 residents statewide were selected at random and interviewed for this survey. Its findings were as follows.<sup>62</sup>

- Of all Hawai'i residents, 65 percent are aware that the federal government controls access to Kaho'olawe.
- Of all Hawai'i residents, 84 percent favor the temporary halt to the bombing of Kaho'olawe as declared by the federal government.
- Of all Hawai'i residents, 71 percent favor a permanent stop to all military use of Kaho'olawe. Most of the remaining 29 percent who favor continued military use do so with restrictions being placed on military activity:



## Public Sentiment About Kahoʻolawe



*Military camp at Hanakanaia  
(Photo Courtesy Hardy Spoehr)*

59 percent of the 29 percent want to prohibit live fire exercises, while 46 percent of the 29 percent would give the military access only to remove explosives.

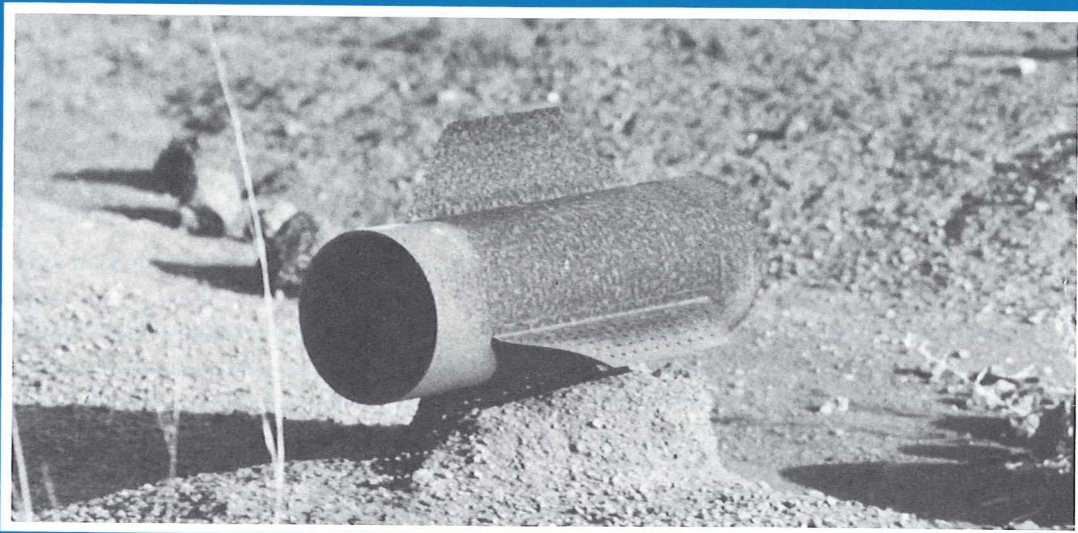
- There is overwhelming approval for the use of Kahoʻolawe as a sea life conservation area and for revegetation and soil conservation. Use of the island for Native Hawaiian cultural practices such as fishing, planting, and rebuilding shrines, and for educational purposes such as school field trips, also received strong approval.
- Of all Hawaiʻi residents, 77 percent believe the federal government should relinquish control of the island. Of those who prefer that the federal government transfer control to the state, 45 percent prefer that management of Kahoʻolawe be handled by Protect Kahoʻolawe ʻŌhana, while nearly 40 percent would like the State of Hawaiʻi to assume management.
- Of all Hawaiʻi residents, 85 percent are in agreement that Kahoʻolawe should be cleaned-up. Most of these prefer that the state determine cleanup needs and that the military implement cleanup operations—"even if the price tag were as much as \$500 million."

Finally, the more than 2,000 respondents to *Honolulu Magazine's* annual poll on Hawaiʻi issues—conducted in February 1992—indicated that the "best thing about Kahoʻolawe" is the "efforts to save the island/stopping the bombing." The "worst thing about Kahoʻolawe" is that it is being "ruined by bombing." A runner-up "worst" is the erosion with a "Memo to George Bush: 'We'd like Kahoʻolawe back. Thank you.'"

*"What I'm trying to say, is the Hawaiian people never themselves had contact with their past. So the Hawaiians today, more than ever, perhaps are searching for their past. Kahoʻolawe has become one of the islands of that past, only 45 square miles, but it is a value that cannot be measured in acreage. It's one-eighth of the Hawaiian chain. It is a whole island. It represents something that can make them feel complete as a people again."*

*Joseph Chang, Kauaʻi Public Hearing, May 5, 1991.*

# PART IV



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## Findings and Recommendations

*Military ordnance on Kaho`olawe  
(Photo courtesy Rowland Reeve)*



## Restoring a Cultural Treasure

**T**his report is a unique and historic document. No other federal study of the future of Kaho`olawe Island, authorized by the U.S. Congress, has ever been undertaken. Never before have Native Hawaiians and other residents of the state had the opportunity to contemplate the return of the island to state control; recommend uses of the island that comply with state and local rather than federal needs; and plan a future for the island based on cultural and historic values.

The Kaho`olawe Island Conveyance Commission (KICC) has gone to great pains, as indicated in Part III, to make this report an expression of widespread public sentiment. In addition to the public surveys reported on in Part III, KICC circulated its draft findings and recommendations for public comment—and received many helpful public responses. Thus, embodied in Commission findings and recommendations are the countless thoughts and aspirations of Hawai`i's citizenry, including: fishermen and farmers; government officials; youth, adults, and seniors; academicians and students; Native Hawaiians and non-natives; military professionals; researchers; and people from all walks of life who call Hawai`i home.

Part IV of this report is divided into three sections.

- **Recommendations to the U.S. Congress and the Federal Government:** Terms and conditions that the Commission deems appropriate for the return of Kaho`olawe to the State of Hawai`i, future use of Kaho`olawe for military training purposes, and the removal of unexploded ordnance and solid waste from the island and its surrounding waters.
- **Recommendations to the State of Hawai`i:** Proposals for the island's use, management, and the development of its resources base.
- **Estimated expenditures for restoration:** Funds that will be required, from a variety of sources, to make the island reasonably safe for human habitation and use and to enhance its environmental stabilization processes.

# Recommendations to the U.S. Congress and the Federal Government

The Commission's recommendations necessarily begin with federal action, which is required to convey title to Kaho'olawe Island back to the State of Hawai'i. Federal action is also required to fulfill certain responsibilities that the federal government has already assumed or should assume. The Commission views federal action as a unified activity that involves legislation enacted by the U.S. Congress and executive activity undertaken by appropriate agencies of the Executive Branch. All of the recommended federal action is necessary to bring about the results envisioned by the Commission; selective or piecemeal federal action shall be avoided.

## Terms and Conditions for the Return of Kaho'olawe Island to the State of Hawai'i

Existing federal statutes and regulations specify how state lands that have been used for military purposes are ordinarily returned to state control. Applicable legislation includes the following.

- **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA/Superfund)**, which requires the decontamination of hazardous and toxic waste (CERCLA section 120 affirms the obligation and ongoing liability of the United States with regard to the cleanup of federal facilities).
- **Superfund Amendment and Reauthorization Act of 1986 (SARA)**, which mandates that the Defense Environmental Restoration Program (DERP) with responsibility for the removal of unexploded ordnance.
- **Federal Facility Compliance Act of 1992 (Public Law 102-386)**, which also addresses problems associated with unexploded ordnance and hazardous and toxic waste on federal property.<sup>63</sup>

Kaho'olawe, however, is not an ordinary case. Executive Order No. 10436 and other stipulations surrounding the taking of Kaho'olawe by the federal government for military purposes present unique circumstances that require a different approach for return of the island to the State of Hawai'i. The Commission's recommendations recognize the intent of these statutes and the technical abilities of agencies charged with ensuring compliance. The recommendations are, however, also designed to return Kaho'olawe to the State of Hawai'i as directed by S. 3088 by the most expeditious means possible.

## The Need for Special Legislation

As previously noted, Kaho'olawe is part of the Public Land Trust. These lands retain a special status and precedence has been established for how such lands are returned to state control after use by the federal government. Although the U.S. Congress has broad discretionary power in this regard, the Hawai'i Admission Act of 1959 (Public Law 86-3; 73 Stat. 4) and the Hawai'i Revised Conveyance Procedures Act of December 23, 1963 (Public Law 88-233, 77 Stat. 472) clearly define the process for the return of such lands. In such instances, lands are returned to the State of Hawai'i free of conditions and reversion clauses.

**Recommendation 1.1.** The island of Kaho'olawe shall be returned to the State of Hawai'i in as expeditious a manner as possible through special legislation stipulating the following.

- Title to the island of Kaho'olawe shall be returned to the State of Hawai'i without conditions or reverter.
- The United States shall bear all costs and liability for, and take responsibility for, the clearance and removal of unexploded ordnance and related solid waste and other



## Restoring a Cultural Treasure

hazardous and toxic wastes, should they be found, as required by Executive Order No. 10436, until the island of Kaho`olawe and its surrounding waters have reached a condition reasonably safe for human habitation and human use in accordance with safety standards mutually agreed on by the State of Hawai`i and the United States.

If additional items or materials are located and were deposited by actions of the federal government, additional funds shall be appropriated to ensure their removal, and all remedial actions required to make the island and its surrounding waters safe for prescribed uses shall be promptly undertaken by the federal government.

- The United States shall provide for the restoration of Kaho`olawe as required in Executive Order No. 10436 by providing funding for soil conservation activities, including erosion abatement, revegetation, and reforestation; water resource development; archaeological and historical site stabilization, restoration, and interpretation; removal and destruction of non-native plant and animal species; and fencing with adequate and appropriate signage.
- The United States shall provide funds to cover all costs for the clearance and removal of unexploded ordnance and related solid waste and other hazardous and toxic wastes, should they be found, and for the restoration of Kaho`olawe. These funds shall come from the general funds of the United States and shall not be a sharing in special funds set aside for similar purposes on a priority basis, such as CERCLA or SARA funds. The funds shall be made available by the United States Congress to the United States Department of Defense. The United States Department of Defense shall grant to the State of Hawai`i, for implementation of activities on Kaho`olawe, the portion of funds required for soil conservation and the related activities noted herein. The portion of funds required for the clearance and removal of unexploded ordnance and related solid waste and other hazardous and toxic wastes on Kaho`olawe and in its surrounding waters shall be granted to the appropriate agency(ies) of the federal government. Such agency(ies) and

pertinent federal statutes and regulations shall be identified in the special legislation. The appropriate agency(ies) shall be directed to act with all deliberate speed to begin clearance and removal of unexploded ordnance and related solid waste from Kaho`olawe and its surrounding waters.

- The United States shall retain responsibility for the removal, or disarming and removal, of all unexploded ordnance and related solid waste and any other hazardous or toxic waste exposed or located due to erosion or other causes on Kaho`olawe or in its surrounding waters subsequent to the certification of Kaho`olawe and its surrounding waters as meeting the clean up standards mutually agreed to by the State of Hawai`i and the federal government.

### Munitions Training Prohibition

Since 1990 and the formation of KICC, all military departments have been restricted from using Kaho`olawe "to conduct bombing training, gunnery training, or similar munitions delivery training." This restriction has been included in military appropriations legislation and will remain in effect through the 1993 federal fiscal year. It is anticipated that enactment of special legislation for Kaho`olawe will not be completed before the munitions restriction expires.

**Recommendation 1.2.** The United States Congress shall insert the following language in all military appropriation measures until such time as special legislation is enacted regarding Kaho`olawe's return to the State of Hawai`i: "None of the funds made available by this Act shall be available for any Military Department of the United States to conduct bombing training, gunnery training, or similar munitions delivery training on the parcel of land known as Kaho`olawe Island, Hawai`i."

### Unexploded Ordnance and Related Solid Waste Removal

In 1953, when Kaho`olawe was placed under the jurisdiction of the Secretary of the Navy through Executive Order No. 10436, territorial officials, after protracted discussions with federal officials, came to an agreement that the island would be restored to a condition usable by future populations in Hawai`i,



## Findings and Recommendations



*New recruits getting ready for sweep duty  
(Photo Courtesy Hardy Spoehr)*

once military use of the island ceased. The Executive Order specifically requires the federal government to restore the island once it is no longer required for naval purposes. This requirement is unlike other agreements executed for use of sites for military ordnance training. It is an integral part of the Executive Order and, therefore, must be addressed through special legislation.

It is the Commission's position that the island needs to be restored to a condition safe for human habitation and human use. Future land-use planning for the island does not envision residential development. Rather, the island will be used only for the practice of traditional and contemporary Native Hawaiian culture, including religion; for the study and preservation of archaeological and historic sites, structures, and remains; for soil conservation and plant reforestation activities; and for the enhancement and study of native plant and animal habitats. The U.S. Naval Explosive Ordnance Disposal Technology Center has developed clearance standards for unexploded ordnance removal based on "end use" of land areas for the U.S. Army Corps of Engineers.<sup>64</sup> The Commission notes that these standards may be appropriate for Kaho'olawe or, at

*"The area covered several miles and looked like a red dirt version of the moon. There was no vegetation, and giant craters pocked the ground everywhere, littered with hulking pieces of bombs and occasional aircraft parts. There was no topsoil and absolutely no moisture. The ground itself, called 'hardpan' by the Navy officers, seemed to emanate heat like a clay oven."*

*Brian Thornton, staff writer,  
Maui News, July 23, 1980*

least, form the basis for initial discussions on developing standards for the island that are mutually agreeable to the State of Hawai'i and the federal government (see Table 1).

Unexploded ordnance (UXO) and its related solid waste are located on the island as well as in its surrounding waters. The problem was first studied



## Restoring a Cultural Treasure

Table 1. Clearance Standards and Associated Risks

END USE	CLEARANCE STANDARD	RISKS
Restricted game refuge, disposal site, firing range, restricted area. Acceptable land uses may change depending on time.	Fence and post.	Encroachment. Possible future clearance requirement before natural processes render ordnance safe.
Wilderness parks, livestock grazing, limited human foot traffic depending on hazards.	Surface clearance.	Depending on clearance effectiveness and ordnance type, some hazards may exist from shallowly buried items. On inert or practice ordnance targets, the risks are minimal.
Limited agriculture, tree farming, limited recreational vehicle use and foot traffic, parking areas, hunting, fishing.	Surface and shallow subsurface clearance to 18".	If land is disturbed or eroded, there exists the possibility of exceeding the clearance depth and exposing ordnance.
Unlimited agriculture, tree farming, recreation. Limited construction, i.e., sheds, temporary buildings, pipelines.	Clearance to a minimum depth of 10'.	If land is disturbed or eroded, there exists the possibility of exceeding the clearance depth and exposing ordnance.
Large structures, drilling, mineral exploration, mining, etc. may be performed in areas cleared.	Remove all ordnance.	A hazard of encountering an ordnance item would exist during the excavation or construction. There exists little chance of an explosive incident caused by a deeply buried ordnance item from surface activity.

Source: Naval Explosive Ordnance Disposal Technology Center, Range Clearance Technology Assessment-Final Report, March 1990.

in 1971. Various aspects of the problem have been reviewed since that time.<sup>65</sup> The Commission has also conducted its own study of the unexploded ordnance and solid waste problem.

It is the Commission's firm belief that the entire island of Kaho'olawe and its surrounding waters can be made safe for the purposes identified in this report and in S. 3088 (Table 2 provides estimates of unexploded ordnance densities).



## Findings and Recommendations

Table 2. Estimated Unexploded Ordnance Densities

AREA	1976 <sup>1</sup>	1978 <sup>2</sup>	1991 <sup>3</sup>	1992 <sup>4</sup>
<b>Island</b>				
<b>Eastern Troop Safety Zone</b>				
Surface Ordnance	0.27 items/acre			0.05 items/acre
Subsurface Ordnance	0.27 items/acre			0.57-1.90 items/acre (mean=1.20 items/acre)
<b>Former Target Area</b>				
Surface Ordnance	0.37 items/acre			0.11 items/acre
Subsurface Ordnance	0.37 items/acre			1.30-4.30 items/acre (mean=2.80 items/acre)
<b>Western Troop Safety Zone</b>				
Surface Ordnance	0.27 items/acre			0.06 items/acre
Subsurface Ordnance	0.27 items/acre			0.76-2.50 items/acre (mean=1.60 items/acre)
<b>Estimated Items per Acre</b> (Surface and Subsurface)	2.0 items/3 acres			3.0 items/3 acres
<b>Surrounding Ocean</b>				
North	0.000	+	2 <sup>a</sup>	2 items found on reconnaissance
East 0.004	++	1/2 <sup>a</sup>		
South	0.038	+++	1/3 <sup>a</sup>	1 item found on reconnaissance
West	0.070	++++	3/4 <sup>a</sup>	5 items found on reconnaissance
+ 5 items found at Ahupu ++ 3 items found at Kanapou (Becks cove) +++ 31 of 36 items found around Puu Koa (0.62 items/acre) ++++ 43 items found off Hanakanaia (Smugglers Cove)—Black Rock				

a Magnitude of danger: 4= most dangerous; 1= least dangerous

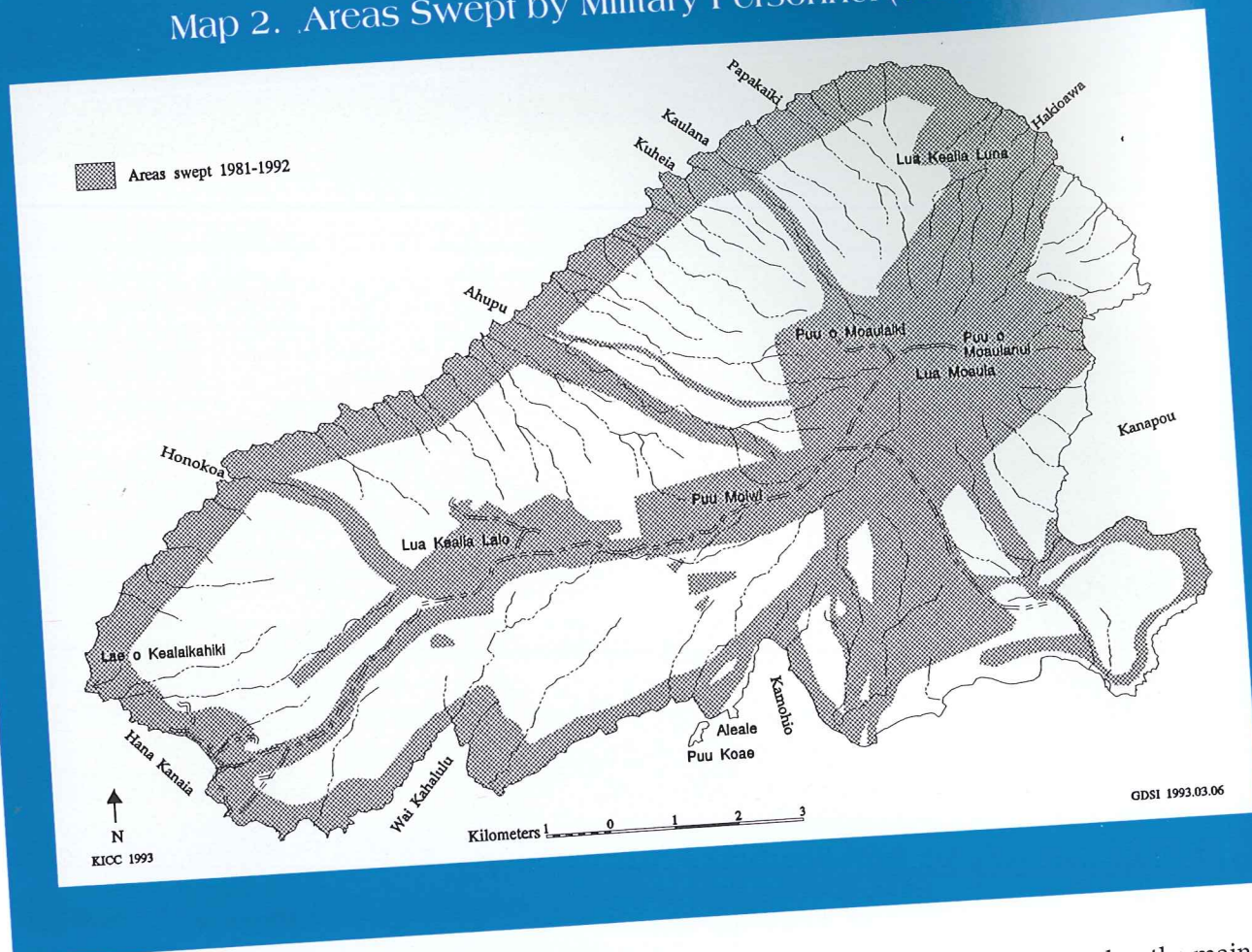
Sources:

- 1 Maringo, Ltd. Study on the Feasibility and Cost of Clearing Kahoolawe Island of Unexploded Ordnance (Final Report), September 1976.
- 2 U.S. Navy, "COMEDGRUPAC Report on Kahoolawe Island; Underwater Survey," Commander Explosive Ordnance Disposal Group One; Pac. EODGRUOWE:N3:RE, 8027, Serial 496, November 8, 1978.
- 3 Walter Dennison. "Explosive Hazards Associated with the Waters Surrounding Kahoolawe island," Prepared by OSP, State of Hawai'i, October 3, 1992.
- 4 Land: Ballena Systems Corporation. Unexploded Ordnance on Kaho'olawe: Historical Review, Technological Assessment, and Clearance Planning, July 1992; Surrounding Ocean: State of Hawai'i. *Kaho'olawe Island Nearshore Marine Resource Inventory (Draft)*, Department of Land and Natural Resources, December 1992.



## Restoring a Cultural Treasure

Map 2. Areas Swept by Military Personnel (1981-92)



### Unexploded Ordnance and Related Solid Waste on the Island

The 1980 Consent Decree reached in the settlement of *Aluli v. Brown* ordered the U.S. Navy to begin a program of unexploded ordnance clearance and removal for Kahoʻolawe. Between fall 1981 and November 1992, the U.S. Navy estimates that more than 14,000 acres were surface swept—some two or more times (Map 2).<sup>66</sup>

The KICC consultant estimates that the total densities of potentially hazardous surface and subsurface items of unexploded ordnance remaining on Kahoʻolawe, in those areas swept, are: approximately one item per acre in the eastern end of the island, in what was known as the Troop Safety Zone; two items per acre in the western Troop Safety Zone; and three items per acre in the former central

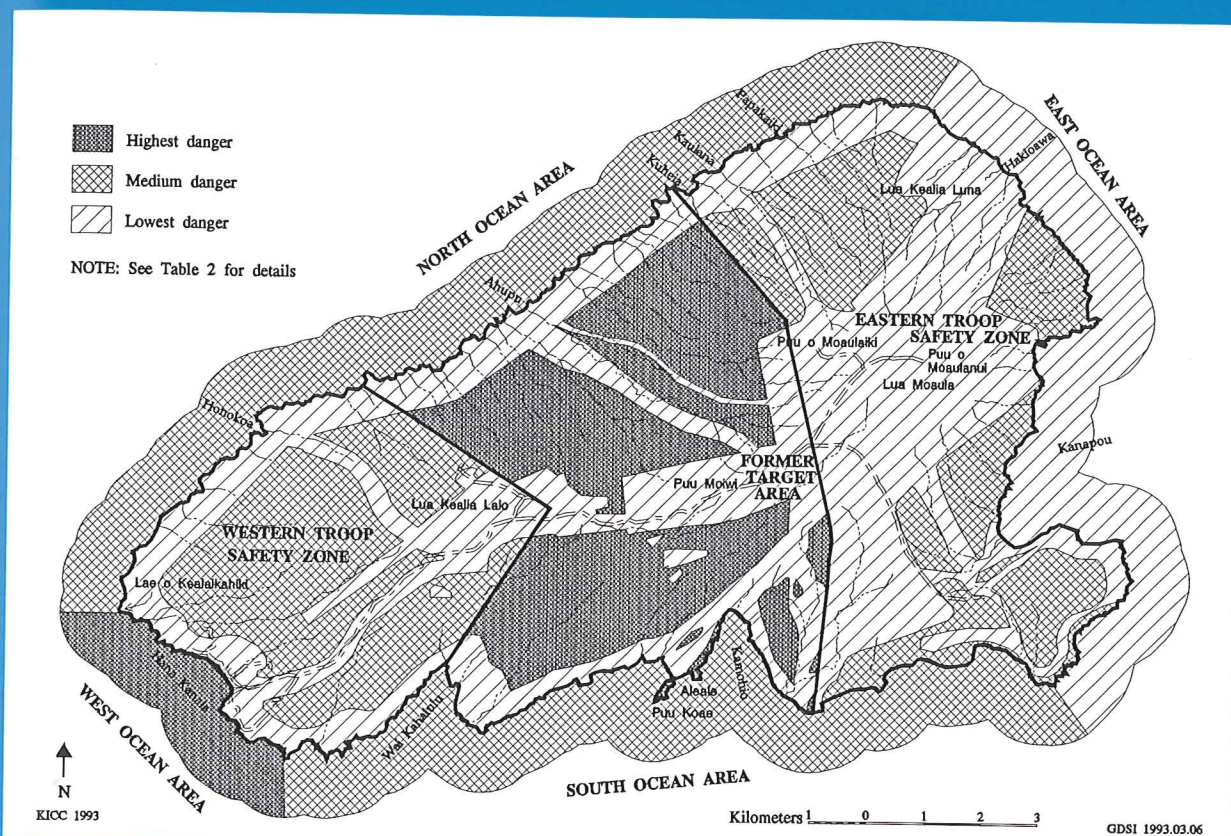
portion of the island, which served as the main target area in recent times. This equates to approximately 6,000 potentially hazardous items of unexploded ordnance on or below the island's surface in those swept areas. Most of the remaining subsurface ordnance is within one foot of the surface. Other studies tend to confirm these findings, although areas yet to be swept by the military probably have much higher densities of unexploded ordnance. Types of ordnance that may be present are listed in Appendix 10.

The KICC consultant also found that, between 1986 and 1990, more than 300 tons of scrap and inert ordnance were collected on Kahoʻolawe and still need to be removed. It is estimated that more than 1,200 tons of scrap and inert ordnance, about 85 pounds per acre, must still be collected on the island.<sup>67</sup>



## Findings and Recommendations

Map 3. Estimated Degrees of Danger on Land and in Waters Surrounding Kaho`olawe



### Unexploded Ordnance and Related Solid Waste in Surrounding Waters

All of Kaho`olawe's coastal waters were regularly used for aircraft approaches to targets. On occasion, pilots experiencing problems jettisoned their bomb and rocket loads before returning to base. Prior to 1970, there was no requirement that the military keep records on where munitions were jettisoned.<sup>68</sup> Much of this ordnance remains in coastal waters that surround the island. Although it is not yet possible to detail the specific nature of unexploded ordnance in Kaho`olawe's surrounding waters, indications of areas that may harbor dangerous quantities of unexploded ordnance are available (Map 3).<sup>69</sup>

The same types of unexploded ordnance found on the island may also be present in the island's surrounding waters along with other specialized

weaponry, such as torpedoes. Prior to 1970, a number of coastal targets were being used for military purposes. These included:

- Black Rock off Lae O Kealaikahiki, which was a common site for 20mm to 40mm firing, rocket firing, and drops of bombs in 100- and 250-pound sizes;
- Kanapou Bay, which was used for submarine exercises and torpedo firings;
- Waikahalulu and Kamohio Bay and the area between, which was used for submarine exercises and torpedo firings, particularly between 1957 and 1959;
- The northeast coast of the island, which was used for firing 11.75mm ("Tiny Tim") rockets; and



## Restoring a Cultural Treasure

- The waters from Makaalae to Lae o Kukui, which were used by a wide variety of ships for live fire exercises.

**Recommendation 1.3.** Onsite safety standards for the clearance and removal of unexploded ordnance and related solid waste from Kaho`olawe and its surrounding waters shall be established on the basis of human habitation and other specified human uses and be implemented utilizing the highest state-of-the-art detection techniques and devices.

### Restricted Access and Entry

Since 1941, the military has controlled access to Kaho`olawe. The 1980 Consent Decree issued in *Aluli v. Brown* recognized the Protect Kaho`olawe `Ohana's right to access the island. With the change in jurisdiction from federal to state control, the Commission believes that the PKO's rights to access Kaho`olawe and to enter its surrounding waters for cultural and educational purposes should be maintained. This does not, however, detract from the inherent dangers that unexploded ordnance and related solid wastes on Kaho`olawe and in its surrounding waters pose to unsuspecting visitors from the general public. Access to Kaho`olawe and use of its surrounding waters by the general public must, therefore, be controlled and supervised.

**Recommendation 1.4.** Access to Kaho`olawe shall remain controlled and supervised. Upon conveyance of Kaho`olawe to the State of Hawai`i, access to and use of the island and its surrounding waters shall be under the jurisdiction of the State of Hawai`i, and access by the Protect Kaho`olawe `Ohana shall be continued.

The appropriate agency(ies) responsible for the removal of unexploded ordnance and hazardous and toxic waste, should any be found, shall have authority to promulgate rules and regulations regarding access to such portions of the island deemed to be necessary for protection against loss of life, bodily injury, or property damage. Any rules and regulations promulgated in furtherance of this recommendation shall be designed to maximize the public use of the island and its surrounding waters for traditional and contemporary cultural practices, and for educational and scientific purposes.



*Kaho`olawe military supply ship leaving  
(Photo Courtesy Hardy Spochr)*

Such rules and regulations shall require the approval of the State of Hawai`i by its Governor or his designee, and shall have the force and effect of law. The state shall not arbitrarily or capriciously withhold such approval or consent. The state may at its own discretion terminate or abolish such rules and regulations when it deems they are no longer applicable.

### Executive Order No. 10436 Termination

Executive Order No. 10436 provides the legal basis for many of the Commission's findings and recommendations. It shall be terminated only after all appropriate legislation has been enacted and agreements have been executed with the federal agencies tasked with conducting the work needed to comply with Commission recommendations.

**Recommendation 1.5.** All military use of Kaho`olawe shall cease. Presidential Executive Order No. 10436, dated February 20, 1953, which takes and reserves Kaho`olawe for military use under the jurisdiction of the Secretary of the Navy, shall be terminated upon enactment of special legislation that would transfer to the appropriate federal agency(ies) all the obligations to clean up and restore Kaho`olawe, contained in said Executive order, together with such additional requirements as are recommended by this Commission and as the Congress finds appropriate.



# Recommendations to the State of Hawai'i

Kaho`olawe Island contains 28,600 acres of diverse landscapes with myriads of cultural, archaeological, historical, and environmental resources, many of which are exhibiting dramatic signs of environmental stress. Only recently have these resources been recognized as important. It is not too late to preserve and restore Kaho`olawe's resources, both on land and in the surrounding waters. The island and its waters offer a unique challenge to all of Hawai'i's people to preserve and protect a corner of their island state so that future generations can become familiar with their islands' past human and natural heritages.

For many Native Hawaiians and others, Kaho`olawe is a special place that has been sanctified by the loss of life in a struggle between traditional values and Western concepts of land use and management. Because of all that Kaho`olawe represents, including its unique history and its cultural significance including religion, the Commission finds that the island is a *wahi pana* and a *pu`uhonua* for island people committed to their heritage. These two concepts should guide future use and management of Kaho`olawe and its surrounding waters.

## The Kaho`olawe Model: Island Use and Management

Few models exist upon which to base discussions of Kaho`olawe's future development. The Commission presents the following findings and recommendations as they relate to the purposes, administration, and resource management of Kaho`olawe and its surrounding waters. When taken collectively, these findings and recommendations form a plan of action and a model for future development.

### Purposes

Until its taking by Executive Order No. 10436, Kaho`olawe was an integral part of the Territory of Hawai'i. The recommendations of the Commission shall restore the island to its rightful place in the State of Hawai'i. With its return comes the state's responsibility for overseeing the island's management in concert with the wishes of the people of Hawai'i. The Commission's principal finding that the island is a *wahi pana* and a *pu`uhonua* for all of Hawai'i's people, more particularly Native Hawaiians, brings with it a deeper responsibility to ensure

*"Beyond a doubt, Kaho`olawe can be used as a cultural showcase for Hawaiian studies, and it is a valuable island for learning survival skills . . . a place where students can find meaning and be rejuvenated by nature. It is a living laboratory where they can observe, and learn about the historical sites that are still in tact."*

Cecelia Kapau Lindo;  
The Native Hawaiian, November 1981

*"... Kaho`olawe can be . . . a place where youngsters will be able to go to learn and to get in touch with their future . . . one can better see their future if they have a greater understanding of their past."*

Moke Kim, Jr.;  
Moloka'i Public Hearing, October 22, 1992



## Restoring a Cultural Treasure



*Contemporary Native Hawaiian ceremony at Hakioawa.  
(Photo Courtesy Rowland Reeve)*



*Contemporary Native Hawaiian ceremony at Hakioawa  
(Photo Courtesy G. Brad Lewis)*

that the integrity of the island is preserved and protected for future generations. The entire island of Kaho`olawe qualifies as a park under existing state law.

If Kaho`olawe is to be preserved and protected, the State of Hawai`i must pass legislation that specifies the types of activities considered appropriate for the island. The Commission strongly believes that any commercialization of the island or its surrounding waters is inappropriate.

**Recommendation 2.1.** The State of Hawai`i shall pass legislation that guarantees in perpetuity the use and management of Kaho`olawe and its surrounding waters exclusively for the study and practice of traditional and contemporary Native Hawaiian culture; for the study and preservation of archaeological and historical sites, structures, and remains; for soil conservation and plant reforestation and revegetation activities; and for the enhancement and study of native plant and animal habitats and communities. Commercial activity and exploitation of resources for commercial development are not appropriate on the island or in its surrounding waters and shall be prohibited.

### Administration

As part of the Public Land Trust and the requirements of Executive Order No. 10436, the Commission concurs that Kaho`olawe be returned to the State of Hawai`i. The Commission also notes,

however, that the Native Hawaiian community and the Hawai`i community at large are engaged in serious discussions on topics relating to self-determination including types of sovereignty models that might be appropriate for Native Hawaiians in the future. Many believe that Kaho`olawe and its surrounding waters could become part of a future sovereign Native Hawaiian land base. The return of Kaho`olawe to the State of Hawai`i at this time does not preclude the transfer of Kaho`olawe to a Native Hawaiian sovereign entity in the future. This option must be preserved for future action by the State of Hawai`i.

Currently, Native Hawaiians are recognized in federal and state legislation as having special status.<sup>70</sup> Most recently, the state courts have affirmed Native Hawaiian rights to access resources.<sup>71</sup> The implications of this as it relates to Kaho`olawe are important, as the island may become the first tangible land base for a self-determining Native Hawaiian Nation.

### Revegetation and Reforestation Activities

Although a number of federal and state agencies and private organizations have been involved with past efforts on Kaho`olawe, the Protect Kaho`olawe `Ohana has been particularly active in the areas of soil conservation and native plant revegetation and reforestation. The Commission believes that the Protect Kaho`olawe `Ohana is the private entity best suited to continue to perform these activities on the



## Findings and Recommendations



*‘Ohana Restoration Project—  
Constructing check dams above Hakioawa  
(Photo Courtesy of the Protect Kaho‘olawe ‘Ohana)*

island. It has acted in a stewardship role as *kahu ‘aina* for the general public since its recognition in the 1980 Consent Decree.<sup>72</sup> Federal entities, including the U.S. Navy, Soil Conservation Service, U.S. Fish and Wildlife Service, National Park Service and U.S. Geological Survey, should be prepared to assist the Protect Kaho‘olawe ‘Ohana with technical expertise. Assistance from private organizations such as The Nature Conservancy and the Pacific Tropical Botanical Garden will also be needed.

### Island Administrative and Management Body

The Commission believes that a new body within state government must be established, whose sole purpose is the administration and management of Kaho‘olawe Island, its surrounding waters and its diverse resources. This new body must have the ability to: develop and maintain programs, including programs that focus on Native Hawaiian culture, education, and research; hire appropriate staff; and enforce applicable state laws on Kaho‘olawe and in its surrounding waters. A staffing model has been developed for Kaho‘olawe. The model reflects future staffing requirements for implementing and maintaining projects identified within KICC’s recommendations, and, therefore, may be helpful as a guide (Table 3).<sup>73</sup>

The new state body must be provided with adequate financial resources to carry out its mandate. In the short term, federal funds will provide the bulk of



*Revegetation efforts using the native plant, Pa‘uo Hi‘iaka  
(Photo Courtesy of the Protect Kaho‘olawe ‘Ohana)*

program support for specific soil conservation projects and related activities. In the longer term, however, state revenues will be needed to continue and enhance those activities initiated with federal funds.

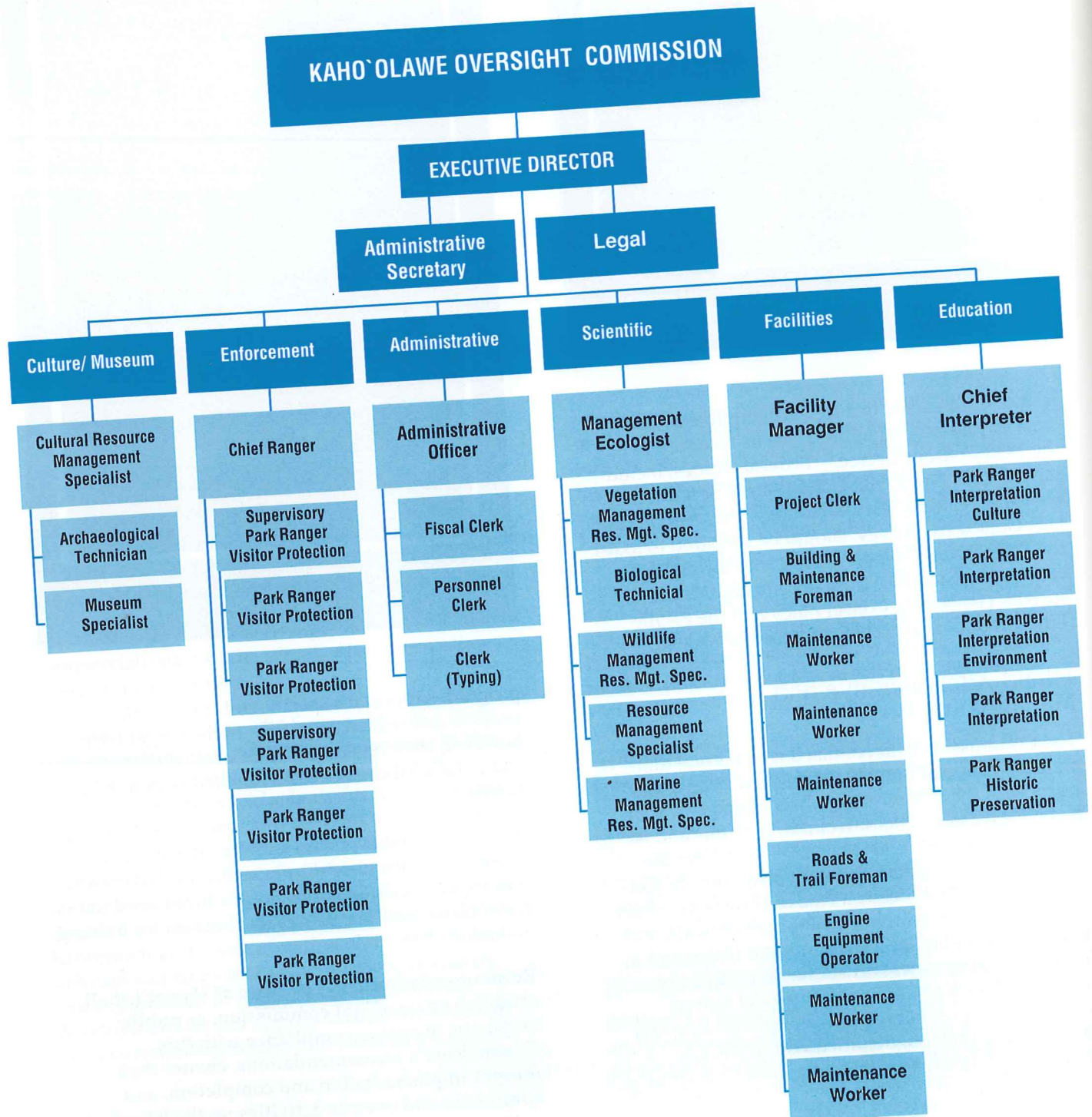
A vital part in this process involves the ability to continually educate and train staff. For that reason, it is important that a portion of the funds used for Kaho‘olawe’s administration be targeted for training and education.

**Recommendation 2.2.** The State of Hawai‘i shall establish an oversight commission, or public authority, to ensure compliance with this Commission’s recommendations, ensure their prompt implementation and completion, and administer and oversee activities on the island and in its surrounding waters. This new administrative body shall be provided adequate financial resources to carry out its mandate and to provide financial assistance for professional training and



# Restoring a Cultural Treasure

Table 3. Administrative Staffing Model



## Findings and Recommendations

technical assistance for individuals and organizations involved with managing, monitoring, interpreting, or protecting Kaho`olawe's cultural, archaeological, historical, and environmental resources.

The new administrative body shall be convened by the Governor of the State of Hawai`i and shall consist of representatives from the State of Hawai`i, Protect Kaho`olawe `Ohana, Office of Hawaiian Affairs, County of Maui and the Native Hawaiian community. Representatives from appropriate federal agencies may be asked to participate in advisory capacities.

### Return of Land Surrounding the Kaho`olawe Light

Between 1927 and 1928, the Hawai`i Territorial Governor, Wallace R. Farrington, and President Calvin Coolidge officially set aside 24 acres on Kaho`olawe for "lighthouse purposes."<sup>74</sup> Provisions were made to service the area from the sea. A lighthouse was constructed and continued to function until 1941, when the war necessitated blackouts. The light was dismantled in 1944, and in 1952 Territorial Governor Oren E. Long rescinded the Governor's executive order setting aside the 24 acres; at the same time, however, the U.S. Navy designated the area outside the island's target area and the light was reestablished. In 1987, a new, simple light was constructed. This new light requires only about 800 square feet for its operation and servicing.

**Recommendation 2.3.** The State of Hawai`i shall enter into negotiations with the U.S. Department of Transportation (U.S. Coast Guard) to seek return, in as expeditious a manner as possible, of all lands not required for the continued operation of the Kaho`olawe light.

### Regulation of Island Airspace

Maintaining Kaho`olawe's integrity as a cultural place where religious ceremonies can continue without interruption from sight-seeing excursions—particularly from helicopters—is an additional administrative concern. The National Park Service continues to deal with this concern in its National Parks.<sup>75</sup> Currently, the airspace above Kaho`olawe is restricted to the 5,000-foot altitude for all commercial flights, whether fixed wing or helicopter. That altitude seems adequate to protect the integrity of the island.

**Recommendation 2.4.** The State of Hawai`i shall discuss with the federal government how best to maintain the current air space restrictions on commercial flights above Kaho`olawe, and how to ensure that such restrictions remain in effect—except for authorized or emergency flights.

### Fencing and Signage

Congress asked KICC to identify fencing needs for Kaho`olawe. KICC believes that fences are a management tool and that the nature of activities planned for Kaho`olawe, and the fact that public



*Helicopter transportation to and from the island  
(Photo Courtesy Hardy Spoehr)*



## Restoring a Cultural Treasure



*A wooden image found by J.F.G. Stokes at a fishing shrine in Kamohio Bay in 1913.  
(Photo Courtesy of the Bishop Museum)*

access will be carefully controlled and supervised, preclude the need for permanent fences. In rare instances, however, temporary fencing may be required to identify eroding archaeological and historical sites and endangered plant species or to warn of hazardous areas. KICC estimates that a total of six miles of moveable, two-strand wire fence will be needed to alert visitors to areas of archaeological or historic fragility, environmental sensitivity, or hazards on the island. Equally important as fences is having appropriate and adequate signage throughout the island and along the coast providing adequate information, be it for education or for warning purposes.

### Resource Management

Kaho`olawe and its surrounding waters harbor unique cultural, archaeological and historical, and environmental resources that provide opportunities for scientific learning as well as practicing traditional and contemporary Native Hawaiian culture. The Commission has attempted to identify these major island and marine resources, to present respective findings about each, and to make recommendations for future implementation.

### Culture

Kaho`olawe serves as a cultural resource, particularly for Native Hawaiians, because it links past traditions with contemporary practices. It is a place where cultural practices, including religious ceremonies, continue to be observed and where legends and traditions continue to survive, often in place names and the oral traditions relating to the island.

#### **Traditional and Contemporary Cultural Practices.**

The past 20 years have brought a resurgence of Native Hawaiian cultural practices. These practices include increasing use of the Native Hawaiian language and interest in traditional value systems, including religion; reexamining Hawaiian history and relating past events from the Native Hawaiian perspective; and defining island lifestyles that are more appropriate for island living. Kaho`olawe and its surrounding waters offer a place where all of these practices can be accommodated and are appropriate. For more than ten years, PKO has utilized the island for cultural practices and has demonstrated the viability and importance of maintaining a cultural foundation for activities on



## Findings and Recommendations

the island. Since 1980, more than 4,000 people have experienced Kaho`olawe through the Protect Kaho`olawe `Ohana and its activities. A number of cultural ceremonies have taken place on the island.

**Special Status and Recognition.** On March 18, 1981, the entire island of Kaho`olawe was placed on the National Register of Historic Places because of its archaeological, cultural, and historic significance. It is the only entire island currently on the Register. Kaho`olawe's numerous unique and significant items include the well-preserved remains of settlements, religious and burial sites, petroglyphs, numerous fishing shrines, and the state's second largest ancient Hawaiian stone tool quarry site.

**Uniqueness.** Many of Kaho`olawe's archaeological and historical resources are unique. No other island has a comparable array of intact fishing shrines. Further, because the island has not undergone the kinds of development found on its neighboring islands, most of the remains of ancient Hawaiian settlements are intact and discernible. Also, according to legend, the island played a role in the ocean voyaging exploits of Polynesians coming and going to Hawai'i from Tahiti and islands south more than 500 years ago, particularly with the voyages of Moikeha, his son Kila, La`amaikahiki, and Wahanui. The extent of that role has yet to be defined but may lie in the astro-archaeological resources found on the island. Finally, Kaho`olawe has passed through a number of distinct historical periods, beginning in the late 18th century. These periods were reviewed briefly in Part I of this report. There are distinct remains and remnants from these periods still on the island, including: a possible mission school, the records for which extend back to 1828; a penal colony operated at Kaulana Bay from 1826 to 1853; sheep ranching which had structures located at Honokoa, Ahupu, and Kuheia Bays beginning as early as 1858 and continuing through 1909; cattle ranching which began in earnest in 1918 and continued until 1941; and, finally, military activities which began in the late 1920s and continue to the present time.

**Legends and Traditions.** Like its sister islands, Kaho`olawe's unique legends and traditions offer important insights into Hawaiian culture and the role the island played within that culture. Noted historian and archaeologist Dorothy Barrere has identified four distinct historical periods that form a framework for research in Native Hawaiian myths

*The island's earliest inhabitants may have used shards of volcanic glass (obsidian) as tools. Concentrations of the glass were found at a site near the center of the island.*

Maui News, September 13, 1976

and legends.<sup>76</sup> These four periods include: Cosmogonic Period, or creation myths and legends; Heroic Period, or myths and legends dealing with the heroic feats of Hawaiian gods and demigods; Settlement Period, or those myths and legends telling of the migrations of Polynesians to Hawai'i Nei and their settlement of the Hawaiian Islands; and the Dynastic Period, an era that continues to the present day through *ali'i* families and their forbears. Kaho`olawe is aptly represented in all four of these historical sequences, which neatly tie contemporary history to creation of the island.

**Recommendation 2.5.** The State of Hawai'i shall seek to upgrade the status of Kaho`olawe's significant sites to "National Historic Landmark" and should investigate the possibility of obtaining World Monument status for these sites under the International Council of Monuments and Sites (U.S./ICOMOS).

**Place Names.** Kaho`olawe's place names offer unique insights into the island's culture. As the noted 19th century Hawaiian historian Samuel Kamakau wrote, "It was the same from Hawaii to Kauai . . . no name was given without some reason."<sup>77</sup> Many of Kaho`olawe's place names can be traced directly to one or more of the historic periods noted above. Some place names honor the Hawaiian fire goddess Pele's brother Kamohoali'i; some place names seem to relate to the voyaging of La`amaikahiki; and other place names stem from the recent military's use of the island. Map 4 reflects the current places with names on the island. The Commission generally has adopted the earliest spelling of names or names provided by native informants as the most appropriate. A comprehensive listing of place names and their derivations is provided in Appendix 11.<sup>78</sup>

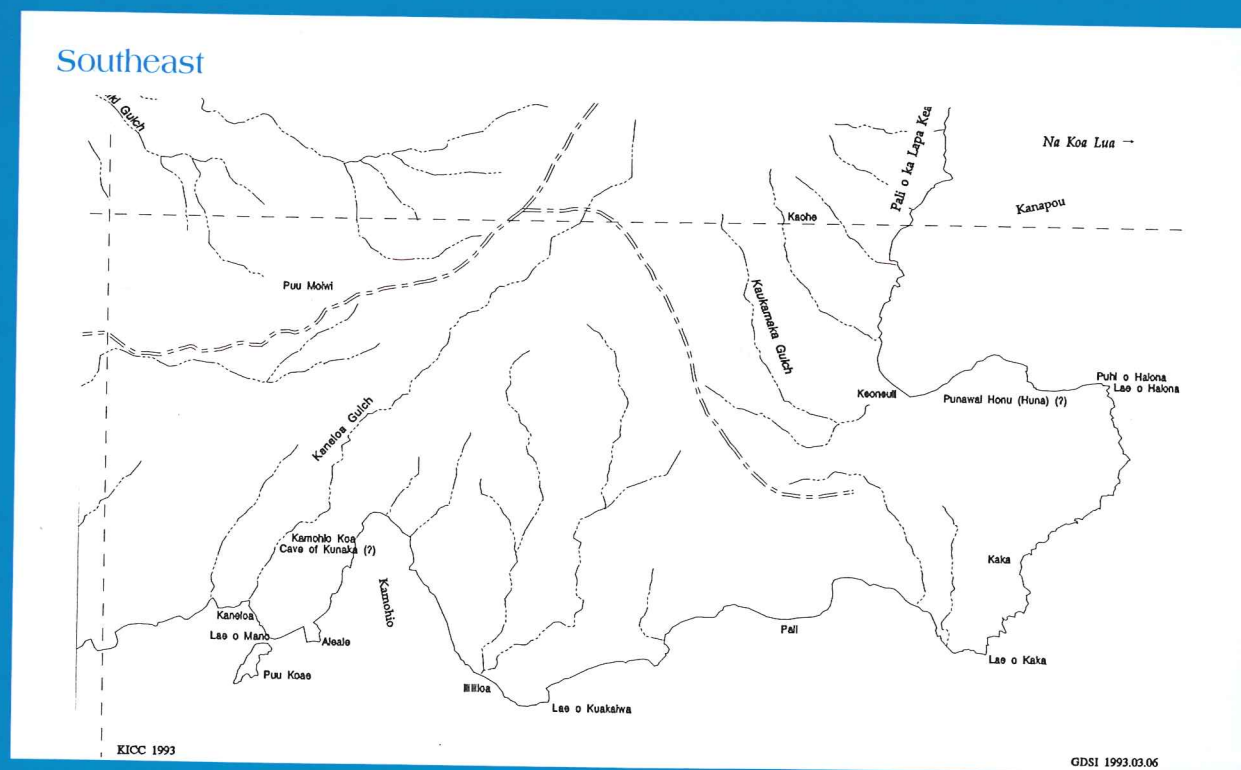
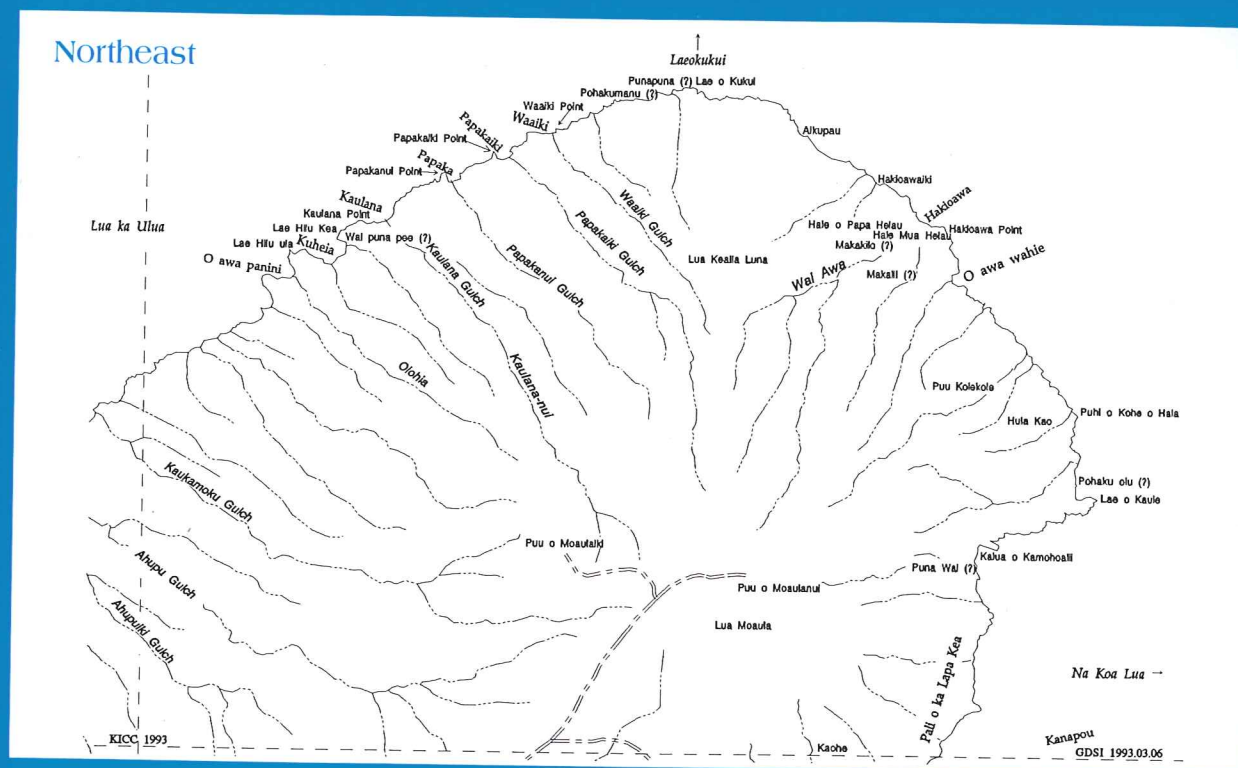






## Findings and Recommendations

Map 4. Continued



## Restoring a Cultural Treasure



*Shrine for the adz workshop on Pu'u Mo'iwi  
(Photo Courtesy Roland Reeve)*

*The island of Kaho'olawe yesterday was declared eligible for the National Register of Historic Places. The announcement came from Jerry Rogers, acting keeper of the register at the U.S. Interior Department in Washington. The ruling, requested by the state Historic Preservation Office . . . means the Navy must nominate the entire island as an archaeological district, which includes 487 sites.*

*Honolulu Advertiser, January 29, 1981*

**Recommendation 2.6.** The State of Hawai'i shall work in cooperation with the Native Hawaiian community to conduct a review and analysis of Kaho'olawe's place names and determine the most appropriate names for areas that have been referred to by more than one name.

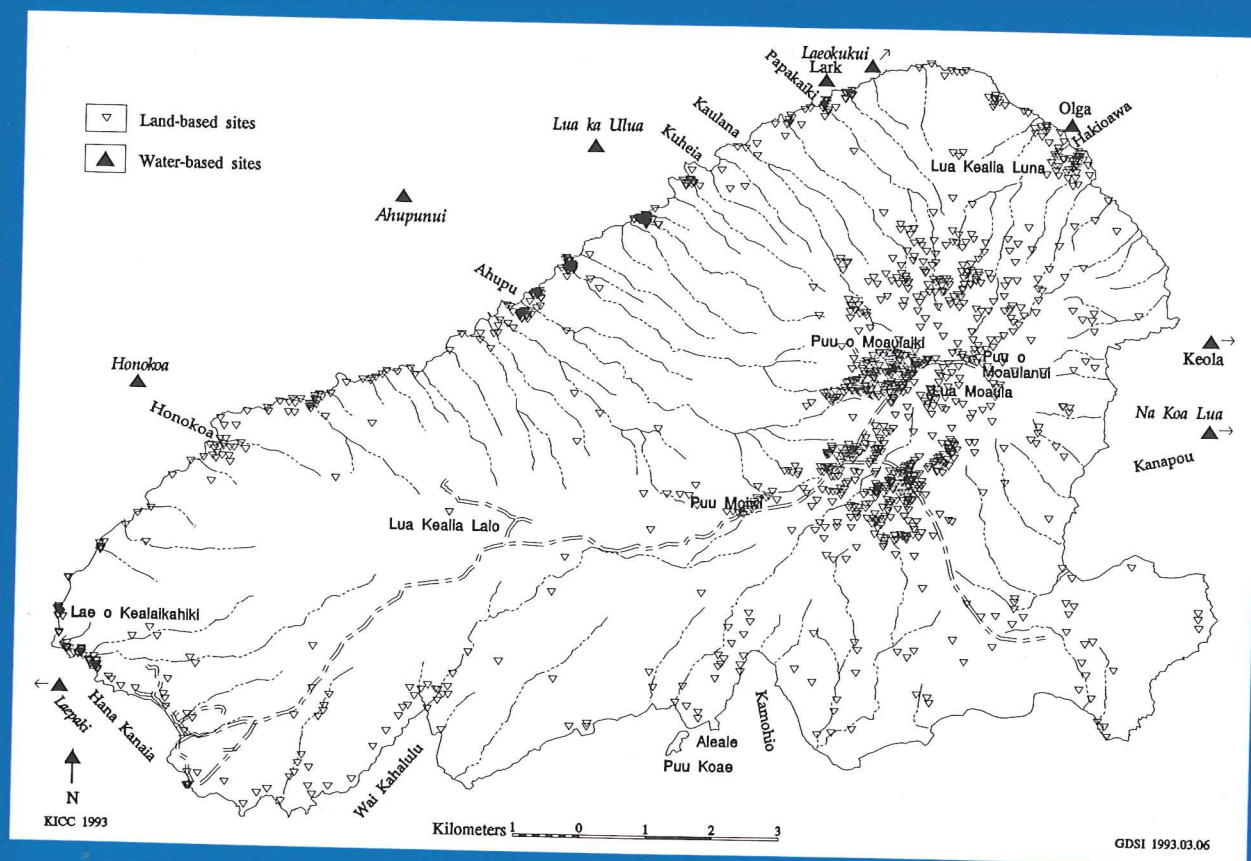
### Archaeology and History

Kaho'olawe's archaeological and historical resources are valuable state, national, and international treasures that provide insight into the island's past. These resources are unique and, currently, extremely fragile and vulnerable. Ancient religious structures include *ko'a* (shrines), *ku'ula* (stones used to attract fish), and *heiau* (temples); petroglyphs; work areas, including agricultural areas and rock quarry sites; settlement areas; and fishing grounds.



## Findings and Recommendations

Map 5. Archaeological Sites



Historical resources include shipwrecks, settlement areas, and infrastructure mostly associated with the penal colony, ranching and military eras. Currently, more than 540 archaeological and historical sites and more than 2,300 features have been identified on the island. The locations of these resources are shown in Table 4 and Maps 5 and 6.<sup>79</sup>

Material written in the Native Hawaiian language, by native speakers, is an invaluable historical resource. This material includes: newspapers that date back to 1832; manuscripts; legends; and chants deposited in the Hawai'i State Archives, the Bishop Museum Archives and Library, and private collections. References to Kahoʻolawe are buried within these materials. As these historical "gems" resurface, Kahoʻolawe's past will continue to emerge.<sup>80</sup>

**Fragility.** Kahoʻolawe's archaeological and historical resources are fragile and vulnerable and susceptible to additional damage from natural and human impacts. A Commission study found that the island's petroglyphs are particularly susceptible to wind and water erosion and are quickly disappearing.<sup>81</sup> In addition, the growing market for Native Hawaiian antiquities has led to at least one instance of vandalism on Kahoʻolawe during KICC's tenure. A major religious shrine and burial site was pilfered by vandals. The quantity of artifacts taken from the site is not known.<sup>82</sup>

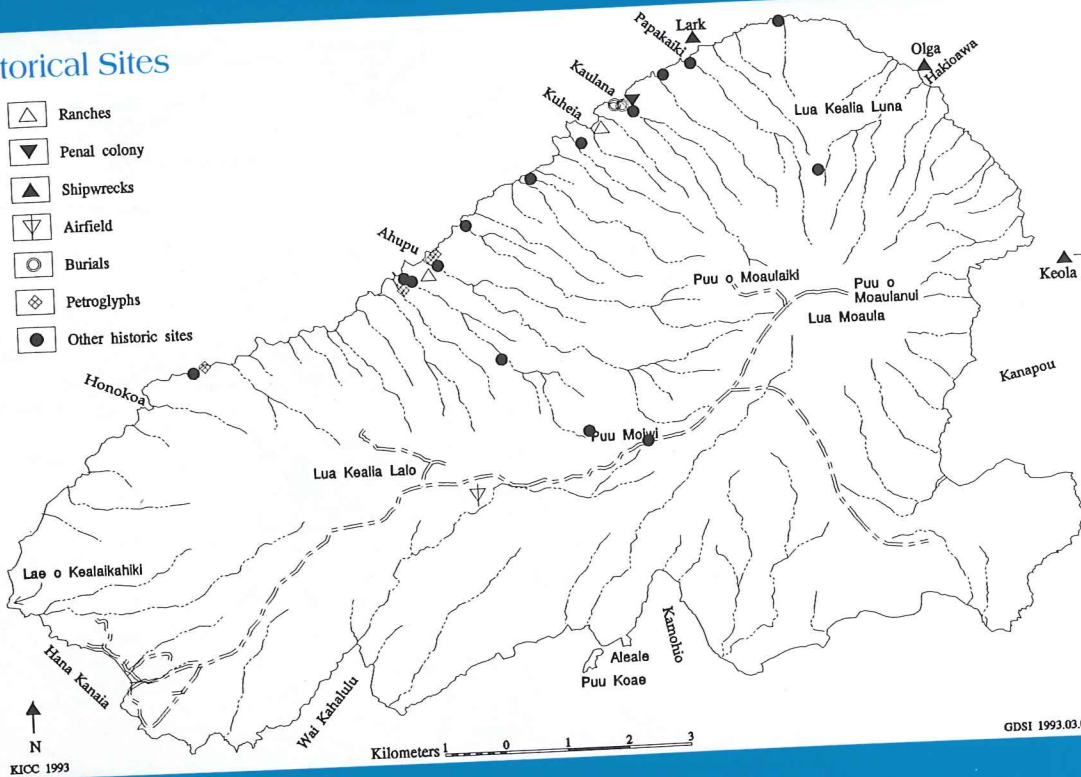
**Burials.** Few findings of burials have been recorded for Kahoʻolawe. Undoubtedly, many remain undetected in sand dunes or caves. In historical times, one individual is known to have died and to

# Restoring a Cultural Treasure

Map 6. Historical Sites, Work Areas, Religious Sites, and Settlements

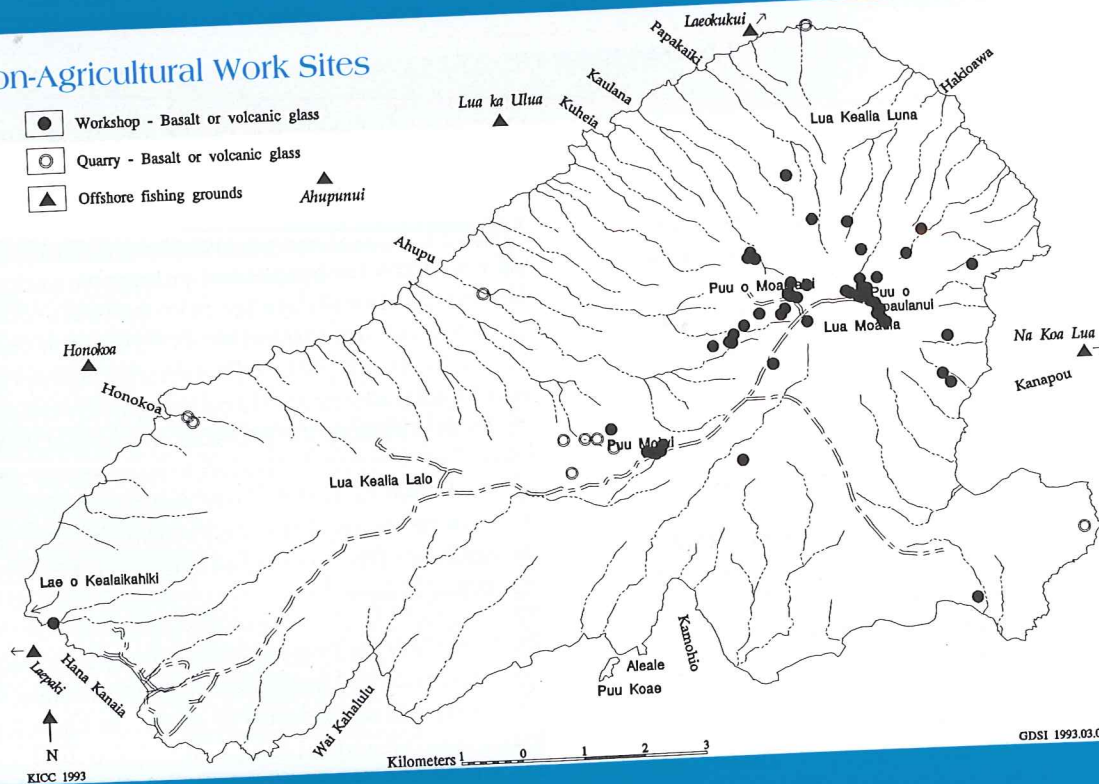
## Historical Sites

- Ranches
- Penal colony
- Shipwrecks
- Airfield
- Burials
- Petroglyphs
- Other historic sites



## Non-Agricultural Work Sites

- Workshop - Basalt or volcanic glass
- Quarry - Basalt or volcanic glass
- Offshore fishing grounds



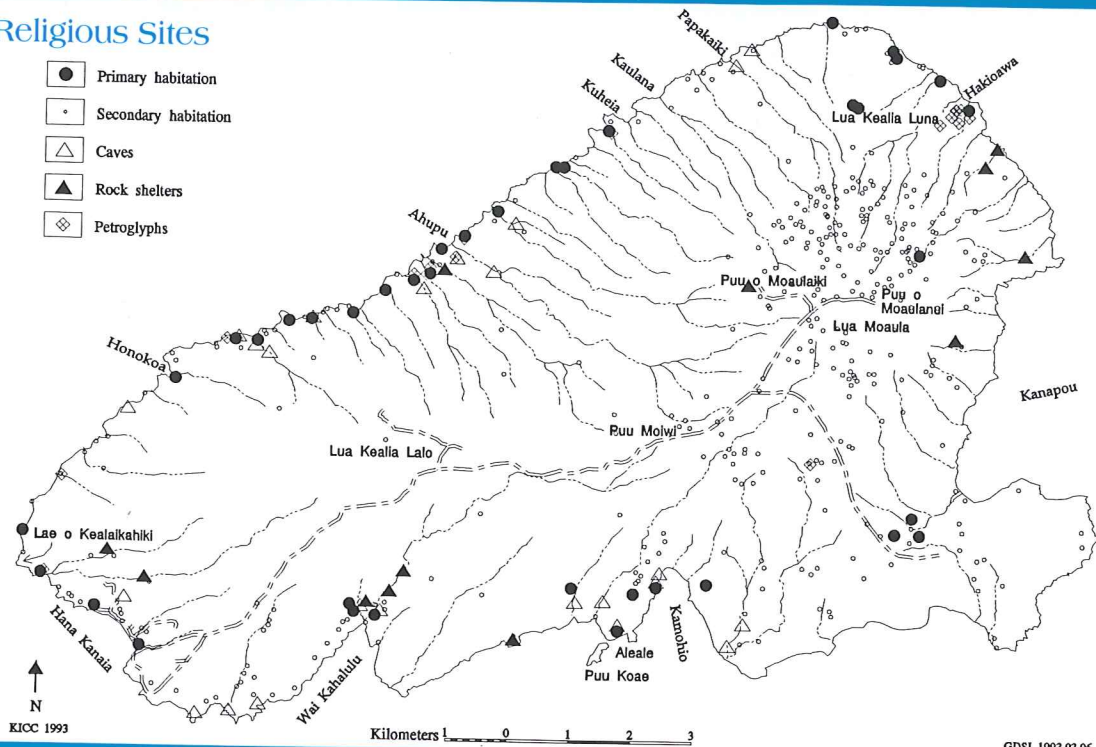


# Findings and Recommendations

Map 6. Continued

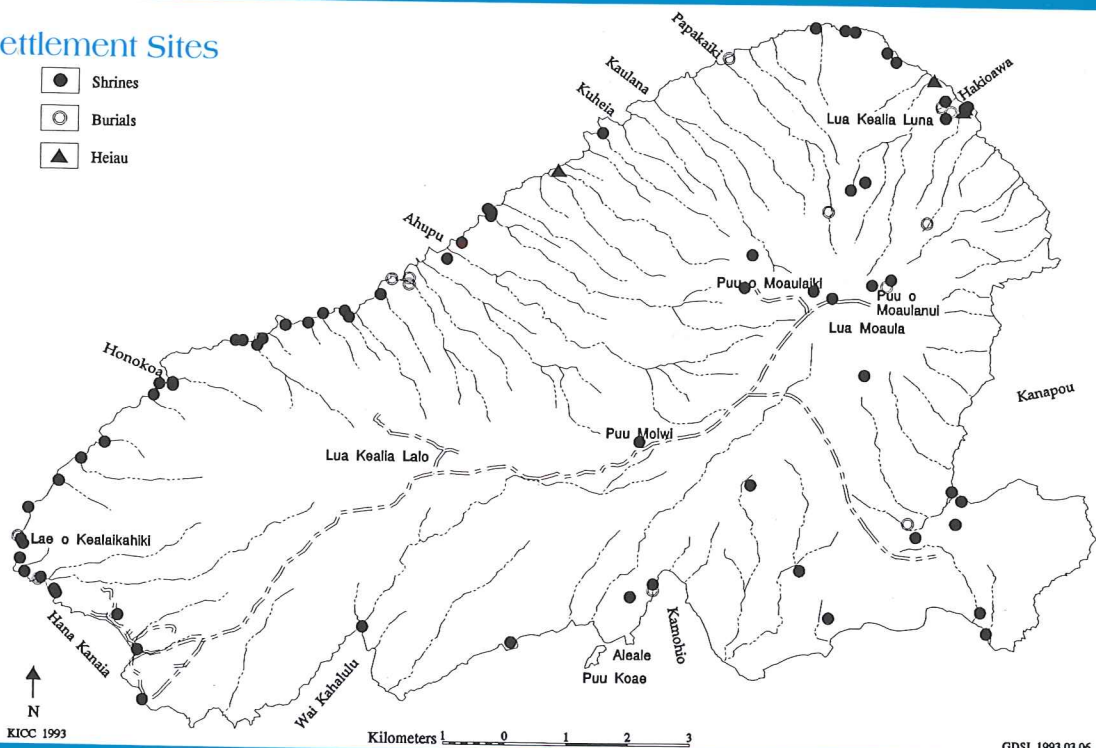
## Religious Sites

- Primary habitation
- Secondary habitation
- △ Caves
- ▲ Rock shelters
- ◊ Petroglyphs



## Settlement Sites

- Shrines
- Burials
- ▲ Heiau



# Restoring a Cultural Treasure

Table 4. Kaho'olawe Archaeological and Historical Sites (1980)

Settlement Zone & Subzone	Habitation Features		Shrines & Heiau		Lithic Quarries & Workshops		Petroglyph Clusters		Postcontact Walls & Features	
	Dated	Total	Dated	Total	Dated	Total	Dated	Total	Dated	Total
Northeast	107	255	7	18	-	-	1	10	-	10
Northwest	104	390	3	22	-	-	1	10	2	26
West	63	214	3	22	2	7	-	3	1	8
South Cliff	19	50	1	2	-	-	-	-	-	1
SE Cliff	1	7	1	2	-	1	-	-	-	-
East Cliff	10	16	-	-	2	2	-	-	-	-
Kanapou	-	6	-	3	-	-	-	-	-	-
Waikahalulu Cliff	13	48	-	-	-	-	-	-	-	-
Kamohio Cliff	17	23	1	1	-	-	-	-	-	-
South Shore	-	5	1	2	-	-	-	-	-	-
Zone Total	334	1,014	17	72	4	10	2	23	4	45
II. Intermediate										
Northeast	1	18	-	-	-	-	-	-	-	-
Northwest	3	35	-	-	1	2	-	-	-	1
West	3	21	-	-	-	-	-	-	-	-
South	8	23	-	1	-	-	-	-	-	-
Southeast	2	7	-	-	-	-	-	-	-	-
East	13	36	-	-	3	3	-	-	2	3
Kanapou	3	17	1	2	-	-	-	-	-	-
Zone Total	33	157	1	3	4	5	-	-	2	4
III. Inland										
North	190	566	4	9	1	3	-	-	-	1
South	53	320	1	2	-	-	1	1	-	2
West	2	6	-	1	1	14	-	-	-	-
Zone Total	245	892	5	12	2	17	1	1	-	3
Grand Total	612	2,063	23	87	10	32	3	24	6	52

Source: Hommon, Robert J., 1980. National Register of Historic Places, Multiple Resource Nomination Form for the Historic Resources of Kaho'olawe (Final).



## Findings and Recommendations

Mounds Dated	Total	Other Total	Total Dated Features	Total Features	Total Sites with Dated Features	Total Sites	Approx. Size of Subzone (Hectares)	Density Habitation Features/sq.Km (100 Hectares)
-	7	6	115	306	39	67	135	188.9
-	21	6	110	475	23	60	507	76.9
-	16	2	69	272	27	56	443	48.3
-	1	-	20	54	8	16	483	10.4
1	1	-	4	11	4	10	242	2.9
-	2	-	12	20	8	15	304	5.3
-	2	-	-	11	-	3	48	12.5
-	-	-	13	48	9	15	63	76.2
-	-	-	18	24	6	10	49	46.9
-	-	-	1	7	1	6	7	71.4
1	50	14	362	1,228	125	258	2,281	44.45
-	1	-	1	19	1	11	395	4.6
-	7	-	4	45	2	16	3,102	1.1
-	2	-	3	23	1	17	1,442	1.5
-	-	1	8	25	8	17	2,256	1.0
-	2	-	2	9	1	4	151	4.6
-	1	-	16	40	11	21	598	6.0
-	1	-	6	223	6	11	107	15.9
-	14	1	40	184	30	97	8,051	1.95
-	-	-	195	579	89	138	712	79.5
-	-	-	55	325	34	43	349	91.7
-	-	-	3	21	3	8	50	12.0
-	-	-	253	925	126	189	1,111	80.29
1	64	15	655	2,337	281	544	11,443	18.03

## Restoring a Cultural Treasure

Table 5. Records of Burials on Kaho'olawe

LOCATION	NUMBER REMAINS FOUND	AGE	SEX	CONDITION OF REMAINS	SOURCE	DATE
Hakioawa Burial Ground	4	Child	Uncertain	Unknown	Stokes	1913
	2	Adult	Female	Unknown	Stokes	1913
Hakioawa	1	0-6	Uncertain	Unknown	Survey	1976-80
	3	Adult	Uncertain	Unknown	Survey	1976-80
	1	35-55	Female	Unknown	Survey	1976-80
	1	18-25	Female	Unknown	Survey	1976-80
	1	Uncertain	Uncertain	Unknown	Survey	1976-80
Third gulch west of Kuheia	2	Uncertain	Uncertain	Badly decayed	Stokes	1913
Kamohio Shrine Site	1	Adult	Male (?)	Fully articulated but headless	Stokes	1913
Northern Slope of Pu'u o Moaulanui	1	45+	Male	Almost complete	Pedro	Buried 1919
Headland overlooking Kuheia Bay	1	26	Male	Unknown	Pedro	1920-30s
Uplands near Pu'u o Moaulaiki	4	Uncertain	Uncertain	Unknown	Pedro	1920-30s

Source: Rowland Reeve, Memorandum to KICC, Honolulu, 1992.

have been laid to rest at Kuheia Bay near the MacPhee-Baldwin ranch facilities. This incident occurred in 1919 and involved the captain of the sampan *Heeia Maru*, Keanini Kimokeo, who died at Kuheia after being crushed by a long boat he was steering when he was tossed out and the boat landed on him.

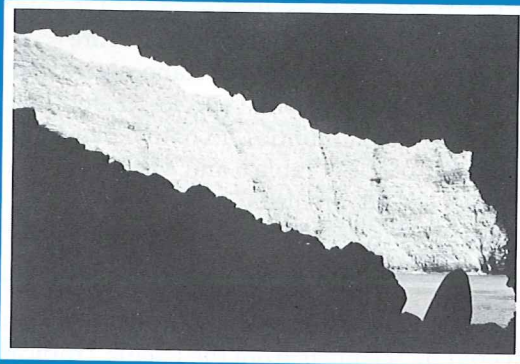
In recent times, a number of burials have been located but most have been reinterred. In 1913, anthropologist John Stokes discovered some 16 burials, 8 of which he brought to the Bishop Mu-

seum for examination. During the later ranching period, ranch foreman Manuel Pedro, also occasionally found and reinterred skeletal remains that had been in eroding shallow graves—particularly in the hardpan area. More recently, archaeological activity between 1976 and 1980 identified some 24 burials at Hakioawa, all of which were reinterred (Table 5).<sup>83</sup>

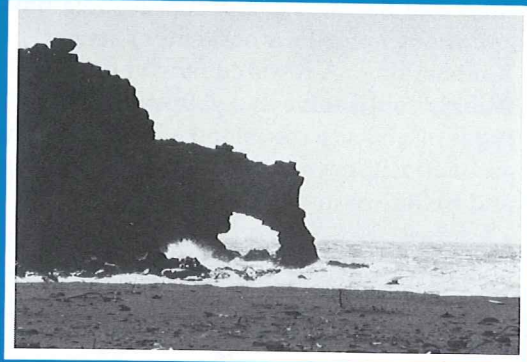
Native Hawaiian burials and any associated burial goods are protected under the state's Historic Preservation Law (H.R.S. 6E-43) and federal statutes, including the recently passed Native American



## Findings and Recommendations



*View from inside Kamohio Cave, a burial site  
pilfered by vandals  
(Photo Courtesy Rowland Reeve)*



*The entrance of Hakiowa Cave  
(Photo Courtesy Rowland Reeve)*

Grave Protection and Repatriation Act (Public Law 101-601).<sup>84</sup> Hawai'i has developed a system of islandwide burial councils that oversee burial matters. The burial councils are assisted by Native Hawaiian groups and organizations such as the Office of Hawaiian Affairs and Hui Malama I Na Kupuna O Hawai'i Nei. Because Kaho'olawe has no formal burial council, the Protect Kaho'olawe 'Ohana has assisted in matters relating to burials on the island.

**Management Information Systems (MIS).** Data pertaining to Kaho'olawe's archaeological and historical resources are incomplete and inadequate for study and management purposes. The first archaeological survey of the island in recent times was conducted in 1913 by John Stokes of the Bishop Museum.<sup>85</sup> It was followed in 1931 by a study conducted by J. Gilbert McAllister, who published the first book on the island's archaeology in 1933.<sup>86</sup> More recently, all Kaho'olawe work has been undertaken by the U.S. Navy and the State Historic Preservation Office. Although much information now exists, it needs to be systematically defined and categorized. Confusion currently exists over what constitutes sites, what constitutes features, and vice-versa. Much information about specific sites and features still remains in field notes and unpublished documents. These issues must be resolved if Kaho'olawe's archaeological and historical resources are to be studied, analyzed, and managed properly.

**Recommendation 2.7.** The State of Hawai'i, as part of its effort and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, shall work in cooperation with the Native Hawaiian community to develop and maintain an ongoing historic preservation program for Kaho'olawe that includes:

- Research focusing on oral histories from individuals who have specific knowledge about the resources of Kaho'olawe;
- Research and translation of primary resource materials that are written in the Native Hawaiian language and relate to Kaho'olawe;
- Return and reinterment of all human remains removed from Kaho'olawe—in accordance with existing federal and state laws—and specification that the Protect Kaho'olawe 'Ohana continues to serve as the island's burial council;
- Review and update of the existing inventory of archaeological and historical resources on the island and in its surrounding waters, utilizing consistent standards and state-of-the-art equipment and including the undertaking of intensive surveys at significant or endangered sites, such as Pu'u Moiwi;
- Petrographic analysis of Pu'u Moiwi materials and stone implements from throughout the state to attempt to determine dispersal patterns of materials taken from the site;



## Restoring a Cultural Treasure

- Stabilization and interpretation of the MacPhee-Baldwin complex at Kuheia Bay and the penal colony settlement area at Kaulana Bay. A restored ranch house at Kuheia could serve as a gateway for some types of visits to the island and as a museum and depository for Kaho`olawe archaeological and historical materials;
- Manage, monitor, and protect the island's archaeological and historical resources by having (1) professional staff with adequate financial resources assigned solely to Kaho`olawe and (2) on-island rangers interpreting these resources and enforcing historic preservation laws; and
- Additional research on the cultural, archaeological, and historical aspects of Kaho`olawe and use of that research to initiate and maintain interpretive and educational programs on and off the island.

### Environment

Kaho`olawe is an island. As such, its environment is fragile and sensitive to change. Changes have affected the island's environment with ever-increasing speed. First was the arrival of Polynesian voyagers followed, perhaps 1,000 years later, by voyagers from the East. In the latter half of the 19th century, sheep and other ungulates were moved to the island and new plant species were introduced to support these animals. In 1941, the military arrived, often en masse, and began bombing exercises. In June 1965, the largest non-nuclear explosion of its time, 500 tons of TNT, dubbed Project Sailor's Hat, was detonated on the island. And so it went until 1990, when President George Bush, through his Memorandum to the U.S. Secretary of Defense, quieted munitions training and operations on the island.

Despite the legacies of the past two centuries, Kaho`olawe retains unique and special environmental resources. Since Western explorers made the first written observations of Kaho`olawe in 1779, the island has been visited, on a number of occasions, specifically for the study of its natural environment. The most recent of these visits was sponsored by KICC and involved The Nature Conservancy, with assistance from the Pacific Tropical Botanical Garden and The Smithsonian Institution.<sup>87</sup>

**Flora and Fauna.** Kaho`olawe's flora and fauna are characteristic of Pacific islands located in the lee of larger islands such as Ni`ihau. The Nature Conservancy's recent survey of Kaho`olawe identified 20 rare plant and animal species, including 2 of 8 natural plant communities, 13 native plant species, and 5 animal species (Table 6 and Map 7). A number of these species are listed on the federal government's threatened and endangered species list.

One plant in particular deserves mention. It was discovered by scientists from the Pacific Tropical Botanical Garden in a very isolated, difficult-to-reach location on the island. Initial findings indicate that the plant is a new genus found only previously in pollen samples that date to the 14th and 15th centuries, but then disappeared. This plant is a remnant from an earlier time.

Kaho`olawe's earliest vegetation seems to have been characterized by a lowland dry shrub land community, probably with a few widely scattered large shrubs or small trees. Late in prehistory, or, perhaps, early in the historic period after 1778, the shrub land was replaced largely by a grassland community as a result of anthropogenic (human) burning. This condition has quickly transformed Kaho`olawe into its present-day appearance, characterized by a greatly reduced grasslands community and a largely barren wasteland on the inland plateau resulting from ungulate grazing. The new plant genus has survived all this. The Commission's recommendation to the scientific community that

*"What is important about this island is that preservation of sites is better here than on any other island. Ninety-nine percent of the sites that ever existed are still here. There has been remarkably little site destruction. We're losing valuable information through erosion. Erosion is virtually the only threat to sites on this island."*

*H. David Tuggle, Navy archaeologist,  
Honolulu Star-Bulletin, May 13, 1983*



## Findings and Recommendations

this new genus be named *Ka Palupalu o Kanaloa* (the gentleness of Kanaloa) has been accepted. Scientific descriptions of the new plant are in process.<sup>88</sup>

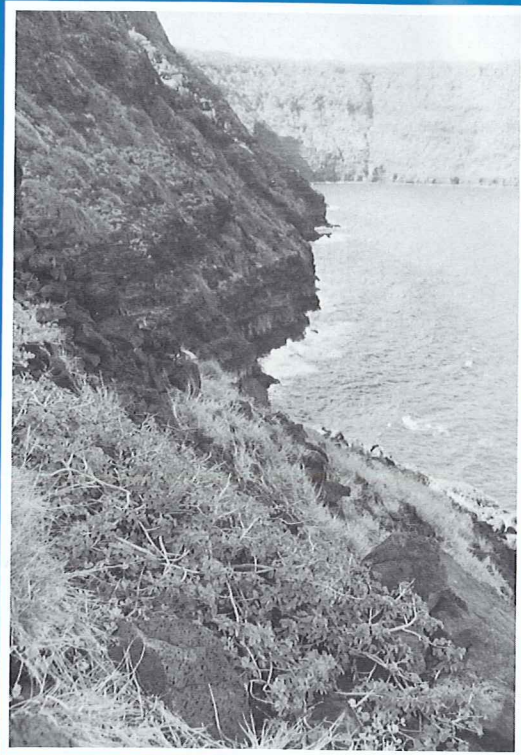
Kaho`olawe, also, still possesses some of the best natural plant communities in the state. One such community is comprised of native cotton, ma`o (*Gossypium tomentosum*). Critical habitat for Kaho`olawe's flora is estimated at 20 percent of the island, or about 5,600 acres.

**Recommendation 2.8.** The State of Hawai`i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho`olawe, shall work in cooperation with the Native Hawaiian community to undertake an active program of management, monitoring, protection, and enhancement of Kaho`olawe's rare flora and fauna, including:

- Focusing management strategies first on those species most immediately threatened with extinction on a worldwide basis;
- Searching the island to locate as many populations of rare species as possible;
- Designating Special Management Areas for the maintenance of native natural communities;
- Establishing elsewhere, on- and off-island, alternative populations of critically endangered species as a hedge against extinction;
- Establishing revegetation projects that use, whenever possible, plant materials that originated from Kaho`olawe;
- Establishing measures to prevent the accidental introduction of exotics onto Kaho`olawe;
- Developing an islandwide fire plan to address the anticipated increasing threat of fire;
- Designing and implementing a monitoring program to assess the status and population trends of rare species and the effectiveness of management programs designed to protect them;
- Undertaking additional surveys that focus on geographical/habitat coverage, wet/dry season coverage, and special groups that include anchialine pools, subterranean species and



*New genus named, Ka Palupalu O Kanaloa—  
Fabaceae sp.  
(Photo Courtesy Kenneth Wood)*



*New genus shown on the sea cliffs of Aleale where  
botanists had to climb down a 600-foot slope to collect  
samples of the new genus for identification  
(Photo Courtesy Kenneth Wood)*



# Restoring a Cultural Treasure

Table 6. Kaho'olawe Rare Flora and Fauna

STATUS <sup>a</sup>	SCIENTIFIC NAME <sup>b</sup>	COMMON NAME	FEDERAL STATUS <sup>c</sup>	HERITAGE GLOBAL RANK <sup>d</sup>
<b>Ferns and Fern Allies</b>				
E	Ophioglossaceae Ophioglossum concinnum <sup>e</sup>	Pololei	C1	G2
<b>Flowering Plants</b>				
E	Asteraceae Lipochaeta bryanii <sup>f</sup>	Nehe	3A	GH
E	Brassicaceae Lepidium bidentatum var. o-waihiense <sup>e</sup>	`Anaunau, naunau, kunana	None	G2T2
E	Capparaceae Capparis sandwichiana <sup>e</sup>	Pua pilo, maiapilo	C2	G2
E	Euphorbiaceae Chamaesyce skottsbergii var. vaccinioides <sup>f</sup>	`Akoka, koka, kokamalei	C2	G2T1
E	Fabaceae Fabaceae sp. nov. <sup>e</sup>	Ka palupalu o Kanaloa	None	G1
E	Sesbania tomentosa <sup>e</sup>	`Ohai	C1	G2
E	Viga o-wahuensis <sup>e</sup>	—	C1	G1
E	Malvaceae Hibiscus brackenridgeii ssp. brackenridgeii <sup>e</sup>	Ma`o hau hele	C1	G1T1
E	Portulacaceae Portulaca molokiniensis <sup>e</sup>	`Ihi	C2	G1
E	Portulaca villosa <sup>e</sup>	`Ihi	C2	G1
E	Rhamnaceae Gouania hillebrandii <sup>f</sup>	—	LE	G1
E	Urticaceae Neraudia sericea <sup>f</sup>	Ma`aloe, ma`ola, `oloa	C1	G1
<b>Reptiles</b>				
I	Cheloniidae Chelonia mydas <sup>f</sup>	Honu, Green Turtle	LT	G3
<b>Birds</b>				
E	Procellariidae Pterodroma phaeopygia sandwichensis <sup>g</sup>	`Ua`u, Dark-rumped Petrel	LE	G2
E	Mammals Vespertilionidae Lasiurus cinereus semotus <sup>g</sup>	`Ope`ape`a, Hawaiian Hoary Bat	LE	G2
I	Balaenopteridae Megaptera novaeangliae <sup>h</sup>	Humpback Whale	LE	G2
E	Phocidae Monachus schauinslandi <sup>g</sup>	`Ilio holo i ka uaua, Hawaiian Monk Seal	LE	G2



## Findings and Recommendations

### <sup>a</sup> Status Codes:

- E = Endemic, native only to the Hawaiian Islands  
I = Indigenous, native to the Hawaiian Islands and elsewhere (includes fauna that are regular migrants and species that breed in Hawaii)

- <sup>b</sup> Taxonomic names of: flowering plants are listed according to Wagner, Herbst, and Sohmer (1990); ferns and fern allies are listed according to Lamoureux (1988); reptiles are listed according to McKeown (1978); birds are listed according to Pyle (1988); and mammals are listed according to Tomich (1986).

### <sup>c</sup> Key to Federal Status (U.S. Fish and Wildlife 1990, 1991):

- LE = Taxa formally listed as endangered.  
LT = Taxa formally listed as threatened.  
C1 = Category 1: Candidate taxa for which the USFWS has substantial information on biological vulnerability and threat (s) to support proposals to list them as endangered or threatened species.  
C2 = Category 2: Candidate taxa for which there is some evidence of vulnerability, but for which there are not enough data to support listing proposals at this time. More research on vulnerability, taxonomy, and/or threat(s) are needed before they can be proposed for listing as endangered or threatened.  
3A = Category 3A: No longer candidates for listing; taxa for which the USFWS has persuasive evidence of extinction. If rediscovered, such taxa might acquire high priority for listing.  
None = No federal status. Recommended as rare by Hawaiian biologists and confirmed by Heritage data.

### <sup>d</sup> Key to the Hawai'i Heritage Program's (HHP's) Global Ranks:

- G1 = Species critically imperilled globally (typically 1-5 current occurrences).  
G2 = Species imperilled globally (typically 6-20 current occurrences).  
G3 = Very rare with restricted range (typically 21-100 current occurrences).  
GH = Species known only from historical occurrences (typically typically no observations in the past 15 years).  
T1 = Subspecies or variety critically imperilled globally.  
T2 = Subspecies or variety imperilled globally.

### <sup>e</sup> Observed during the HHP survey.

### <sup>f</sup> Recorded previously from Kaho`olawe, but not observed during the HHP survey.

### <sup>g</sup> Cited in the literature and/or in the HHP database.

### <sup>h</sup> Recorded during field survey.

Source: KICC Special Report prepared by The Nature Conservancy of Hawaii, *Biological Database & Reconnaissance Survey of Kaho`olawe Island*, Honolulu, 1992.

**ecosystems, terrestrial invertebrates, non-vascular plants (e.g., lichens, mosses, and liverworts), and marine biota; and**

- **Hiring professional staff, including rangers, to conduct educational and interpretive activities and to enforce environmental laws.**

**Soils.** Kaho`olawe's soils are derived from Hawaiian basalts and are typical of the soils found on other Hawaiian islands.

Soil erosion—by wind and water—is the major environmental destabilization process affecting Kaho`olawe. It has been estimated that in recent times more than 1,880,000 tons of soil are being lost each year as a result of erosion.<sup>89</sup> KICC has found that the hydraulic properties of the soil on Kaho`olawe vary greatly, even within small areas. As expected, land cover seems to be highly significant in determining the rate of water movement into soil, with vegetated soils allowing water infiltration at much higher rates. The first known mention of

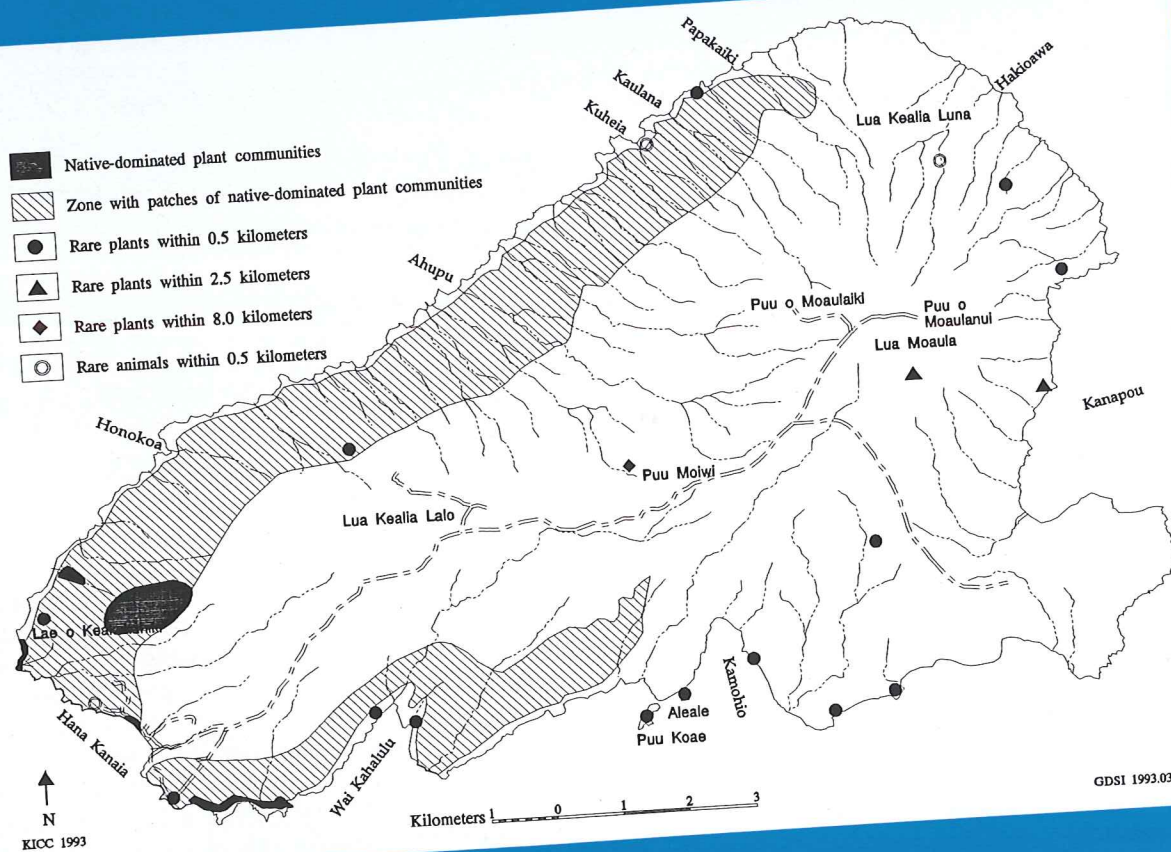


## Restoring a Cultural Treasure



*Biological lowland shrub  
(Photo Courtesy Hardy Spoehr)*

### Map 7. Rare Flora and Fauna





## Findings and Recommendations

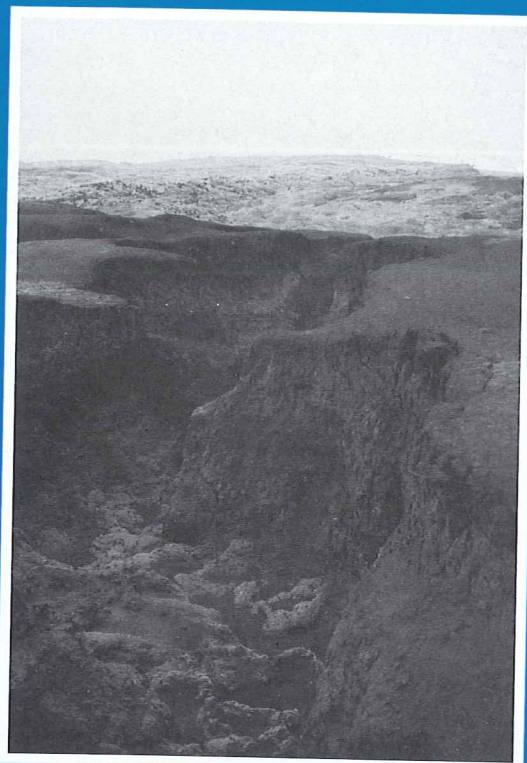
erosional problems appeared in the *Hawaiian Gazette* in 1881, which attributed the problem to grazing by goats and sheep, primarily on the island's inland plateau.<sup>90</sup> Shortly after the turn of the century, this inland plateau had eroded to hardpan, a condition that has remained fairly stable since the 1930s (Map 8). The environmental impacts from this erosion include both the loss of soil and the resulting degradation of plant and animal habitats on the island and in its surrounding waters.

The major coastal areas impacted by erosion lie between Lae Pahi and Wai'aleale Point, with Ahupua Bay having the highest percentage of silt in the offshore sediments and the least amount of coral growth. It is estimated that much of the island's top layer of soil has eroded. This stripping averages about five feet, but has been as much as eight feet.<sup>91</sup> Much of the eastern end of Kaho'olawe is eroded to a point where only hardpan remains.

**Recommendation 2.9.** The State of Hawai'i shall, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho'olawe, work in cooperation with the Native Hawaiian community to undertake an active soil erosion abatement program that:

- Focuses on soil retention activities by expanding reforestation and revegetation efforts, particularly in the hardpan area, and utilizing a strategy based on prioritizing and stabilizing individual watersheds;
- Uses check dams and other appropriate erosion control measures to reduce or eliminate gullying; and
- Realigns and engineers roadways and other access routes either to minimize or eliminate water runoff or to capture flowing water for soil conservation activities, similar to the Mauna Kea access road system.

**Water (Wai).** Rainfall is the major source for fresh water on Kaho'olawe. Annual rainfall on Kaho'olawe averages between something less than 10 inches on its western coast, near Hanakanaia Bay, and upward to 25 inches at its summit at Pu'u Moaulanui.<sup>92</sup> Because Kaho'olawe is located on the lee side of Maui and has a maximum elevation of only 1,477 feet, rainfall is generally restricted to large bursts of rain that usually hit the island during periods of *kona* (southerly) winds. *Kona* winds



*Soil erosion—a major environmental impact*  
(Photo Courtesy Meleana Meyer)

produce storms that can cause 2 to 4 inches of rain to fall within a 24-hour period. These storms are responsible for most of the island's current erosion problems. During the ranch era, efforts were made to capture rainfall in cisterns constructed at Ahupua and Waikahalulu Gulches, reservoirs that were actually the craters of two *pu'u* at Kealealuna and Kealialalo, and redwood tanks. In spite of these efforts to "harvest" rainfall, on occasion water for cattle still had to be brought from Maui.

Like all Hawaiian Islands, Kaho'olawe seems to have a fresh water lens; a layer of fresh water "floating" on top of dense saltwater. Hawaiian legends and accounts by 19th century visitors to Kaho'olawe identify springs and wells on the island.<sup>93</sup> Around the turn of the century, however, *kiawe* (mesquite) was introduced onto the island as a source of cattle feed. With its introduction, existing wells and springs dried up as the trees' roots found their way into the water sources.



## Restoring a Cultural Treasure

Table 7. Major Reforestation and Revegetation Projects: 1970-1993

Project Title	Project Dates	Project Objectives	Project Director (s)	Other Participants
<b>Vegetation Trials for Rehabilitating Kaho`olawe</b>	1971-74	Determine what plant species would grow better given Kaho`olawe's environment: 6 test plots were created and monitored.	Craig D. Whitesell, Research Forester, Forest Service, U.S. Department of Agriculture; Wesley H.C. Wong, Hawaii Division of Forestry, Dept. of Land and Natural Resources (DLNR), State of Hawaii	D.N. Palmer, Soil Conservation Service; H.K. Yanamura, DLNR
<b>Windbreak Project</b>	1978-Present	Plant trees to impact on Kaho`olawe's erosion due to high winds—more than 30,000 tamarisks have been planted to date.	Wesley Wong, Coordinator, District Forester, DLNR, State of Hawaii; Officer in Charge (OIC) Kaho`olawe Project, U.S. Navy	Various volunteer organizations
<b>Native Hawaiian Revegetation Project</b>	1985-Present	Test the viability of using native plant species for Kaho`olawe replanting and revegetation projects: A series of plots with native plants were established and continue to be monitored. Since 1989, more than 3,500 native plants have been propagated for use on Kaho`olawe.	Rene Sylva, Coordinator, Native Hawaiian Plant Society	U.S. Navy; U.S. Department of Agriculture; DLNR; University of Hawai'i, Sierra Club
<b>Kaho`olawe Restoration Project</b>	1986-Present	Reduce the impacts of water erosion: A series of check dams, using old automobile tires, have been used in a number of locations to stem erosion. It has proved effective in some locations.	Officer in Charge, Kaho`olawe Project, U.S. Navy	Soil Conservation Service, U.S. Department of Agriculture



## Findings and Recommendations

Table 7. Major Reforestation and Revegetation Projects: 1970-1993

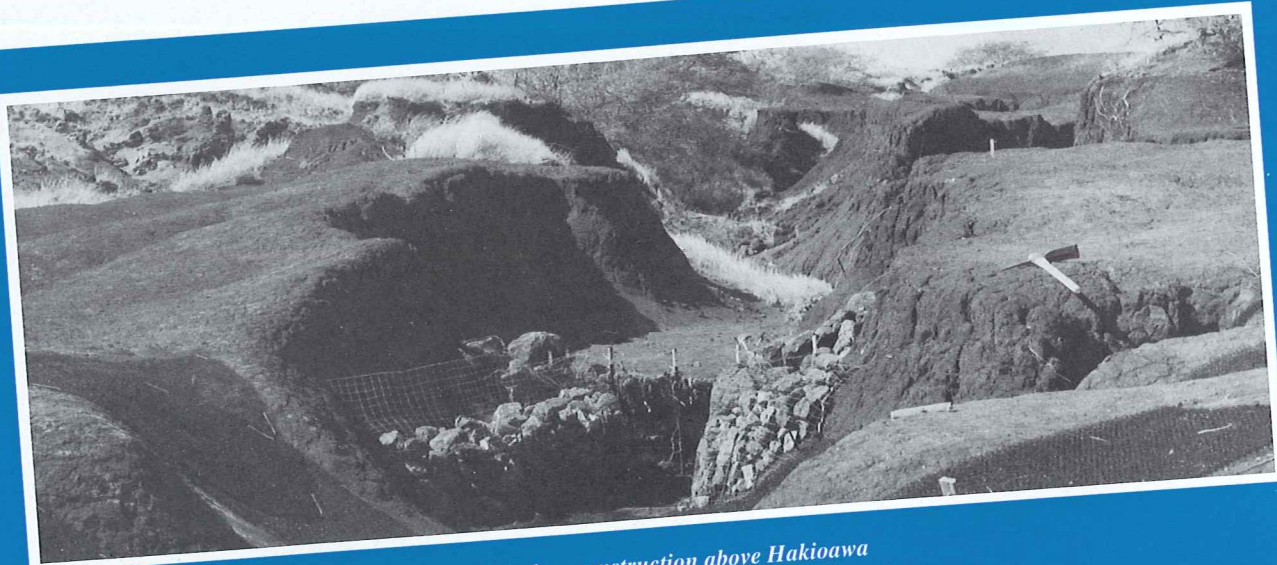
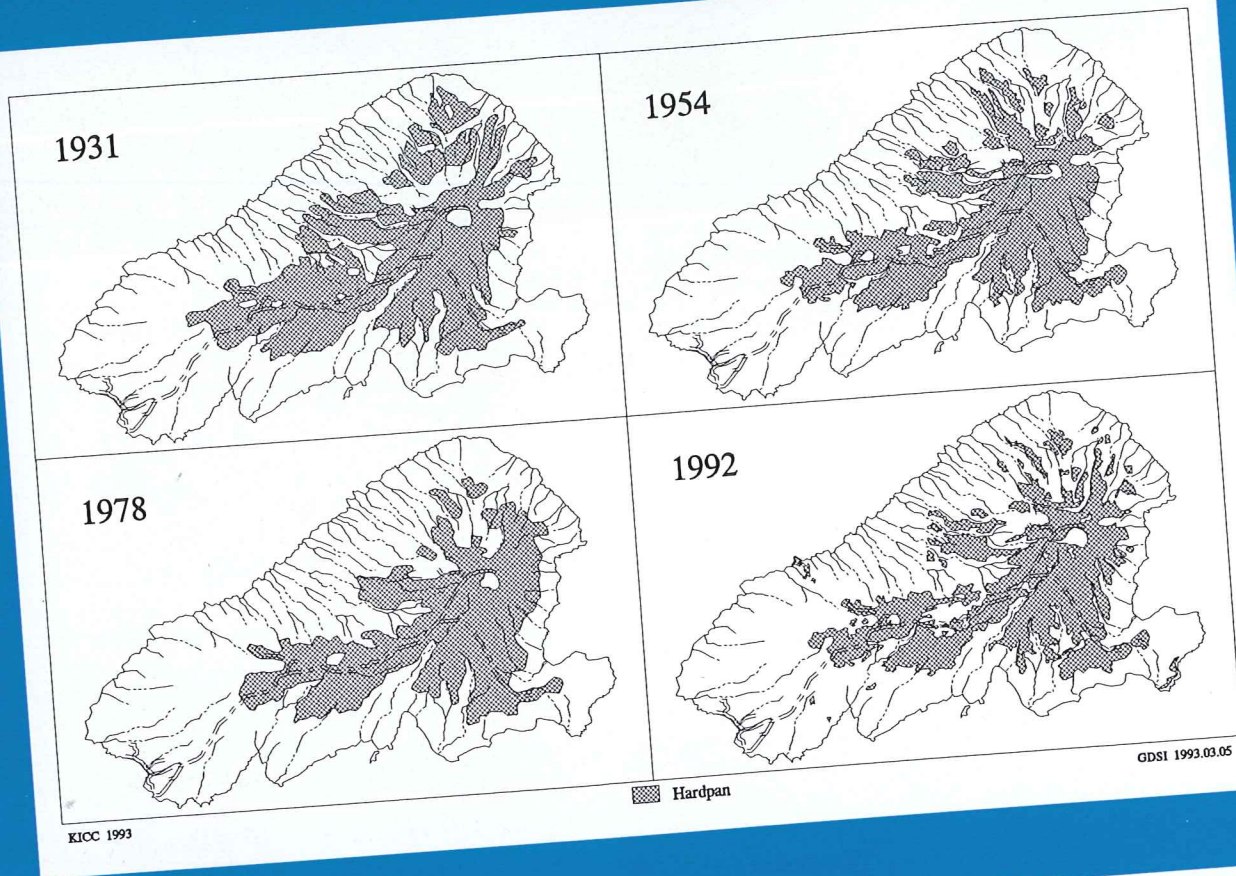
Project Title	Project Dates	Project Objectives	Project Director (s)	Other Participants
<b>Check-Dam Project</b>	1988-89	Test methodologies for constructing check dams to reduce erosion caused by running water: 4,000 cu. ft. of soil were captured during the 4-month project.	Kate Vandermoer, Watershed Management Systems	Protect Kaho`olawe `Ohana
<b>CERL Project</b>	1988-Present	Identify an efficient and effective way to revegetate Kaho`olawe without supplemental watering: Trial planting areas using different grasses have promising effects.	Steven D. Warren and Robert E. Riggins, U.S. Army Corps of Engineers Construction, Engineering Research Laboratories (CERL)	U.S. Navy
<b>NIFTAL Project</b>	1988-Present	Determine the feasibility of planting wilwili ( <i>Erythrina Sandwicensis</i> ) as a large-scale reforestation project; results are still being monitored.	Officer in Charge, Kaho`olawe Project, U.S. Navy	University of Hawai`i, Department of Agricultural Engineering
<b>Restoration Project</b>	1989-Present	Initiate revegetation of native plant species capturing rainwater and using drip irrigation systems; stem erosion by reducing water runoff and developing check dams: Project is in the permitting process.	Dan Holmes, Protect Kaho`olawe `Ohana	Volunteers, Protect Kaho`olawe `Ohana

Source: Compiled by KICC staff.



# Restoring a Cultural Treasure

## Map 8. Hardpan Boundaries



Check dam construction above Hakioawa  
(Photo Courtesy of the Protect Kaho`olawe `Ohana)



## Findings and Recommendations

Additional work, including drilling a test well, must be undertaken before the extent or sustainable yield of Kaho`olawe's fresh water lens can be determined.

Desalinization could provide Kaho`olawe with a third source of water. The U.S. Navy is currently installing a small system at its camp at Hanakanaia. Because of the expense involved, however, water from these systems would be used primarily for human consumption.

**Recommendation 2.10.** The State of Hawai`i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho`olawe, shall work in cooperation with the Native Hawaiian community to undertake a water resource program that includes initiation, development, and maintenance of appropriate projects in water resource development, including rainfall harvesting (catchment), ground water development, and desalinization to provide water needed for soil conservation and other related activities.

**Reforestation and Revegetation.** The key to environmental stabilization of the island is the reestablishment of its vegetative cover, particularly in the hardpan area. Since the 1970s, the State of Hawai`i, the U.S. Navy, and the Protect Kaho`olawe `Ohana have been active in reforestation and revegetation efforts on Kaho`olawe (Table 7). The PKO has been specifically interested in reestablishing and using native plants for this purpose and has demonstrated their viability. The U.S. Navy also has developed a promising process for reestablishing grasslands on the hardpan. The State of Hawai`i and the U.S. Navy have jointly worked at developing windbreaks by planting various pine species and tamarisk (*Tamarix aphylla* (L.) Karst.) to reduce the effects of wind erosion. All of these efforts need to continue and be expanded.

**Recommendation 2.11.** The State of Hawai`i, as part of its efforts and responsibilities in utilizing federal "restoration" funds for Kaho`olawe, shall work in cooperation with the Native Hawaiian community to undertake an active reforestation and revegetation program that:

- Uses native plant species wherever possible, including developing nurseries for captive propagations of Kaho`olawe plant species and other viable native plant species for the island;

*"It was water which governed the Hawaiian concept of property. Not ownership . . . water supposedly belongs to us all."*

George Helm;  
Hawaii Observer, December 8, 1976

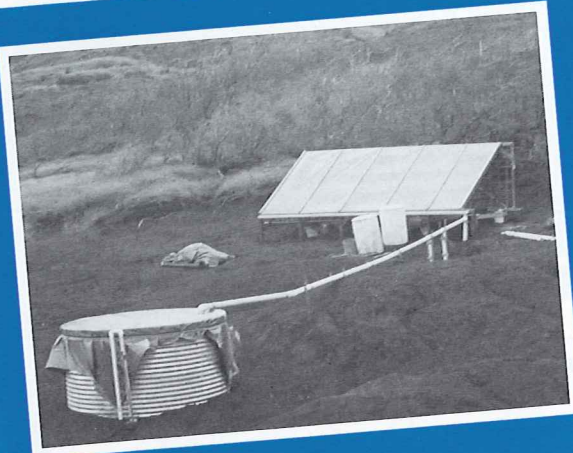
- Continues and expands grass replanting schemes in priority watershed areas in the hardpan;
- Continues and expands windbreak planting with appropriate plants; and
- Replaces exotics where and when appropriate with native plant species (priority areas for species replacement will be in natural native plant communities).

**Surrounding Waters.** The waters surrounding Kaho`olawe are an integral part of the island environment. It is clear that Native Hawaiians used the island's resources and those in its surrounding waters to meet their daily needs. Fish, opihi, crabs, limu, and various other forms of ocean life were all important in maintaining the Hawaiian diet. Implements were fashioned from shell, and coral had significant religious connotations. The island's currents and winds were, likewise, specifically known to ancient Hawaiians and appear in ancient legends and chants.<sup>94</sup> The fact that the island is intimately linked with the Hawaiian deity, Kanaloa, strengthens this relationship with the sea. The numerous *ko`a* and *ku`ula*, as well as the writings of A.D. Kahaulelio, a 19th century fisherman and historian, attest to this relationship as well.<sup>95</sup>

Kaho`olawe's surrounding waters also serve as habitat for a number of marine reptiles and mammals, most of which are listed on the federal government's endangered species list. These include green sea turtles or honu (*Chelonia mydas*); Hawaiian monk seals, or `ilio holo i ka uaua (*Monachus schauinslandi*); porpoises, or naia (*Stenella longirostris*); and humpback whales, or kohola (*Megaptera novaeangliae*). In 1992, the U.S. Congress created the Hawaii Island Humpback Whale National Marine Sanctuary. The waters surrounding Kaho`olawe were excluded from the sanctuary



## Restoring a Cultural Treasure



*Kealialuna catchment and tank  
(Photo Courtesy of the Protect Kahoʻolawe ʻŌhana)*



*Volunteers reintroduce native plants to the island  
(Photo Courtesy of the U.S. Navy)*



*Honu—Green Turtle  
(Photo Courtesy Stewart I)*



*ʻIlio Holo I Ka Uaua—Hawaiian Monk Seal  
(Photo Courtesy Bruce Eilerts)*

pending further study of the unexploded ordnance in these waters. The National Oceanic and Atmospheric Administration (NOAA) will make a determination of whether these waters are eligible for inclusion within the sanctuary in 1996. If found to be eligible, negotiations between NOAA and the Kahoʻolawe administering authority will be required at the appropriate time.<sup>96</sup>

Two of the greatest threats to the resources in Kahoʻolawe's surrounding waters are siltation caused by erosion, and human activity including commercial fishing and diving. The State of Hawaiʻi recently completed an inventory of aquatic resources in the island's coastal areas. Preliminary data from that study suggest that the island's coral reefs are in good health, but are very fragile and are threatened

by silt and sediment. The potential impact of human activity on Kahoʻolawe's marine resources is clear from what has occurred at Kahoʻolawe's neighboring islet, Molokini. Scores of daily visits on boats have taken their toll on the islet's coral reef and its ability to sustain fish populations. These impacts and the threat posed by unexploded ordnance in Kahoʻolawe's surrounding waters require the area to be carefully managed.

**Recommendation 2.12.** The State of Hawaiʻi shall recognize the waters surrounding Kahoʻolawe for their pristine nature—and their importance in maintaining numerous marine species populations—and designate these waters with special status under the law.



# Estimated Expenditures for Island Restoration

The total cost for Kahoʻolawe's restoration, including the clearance and removal of unexploded ordnance and related solid waste; soil conservation activities, and construction and maintenance of related infrastructure development, is estimated to be \$110 million. This estimate does not include costs associated with the clearance and removal of unexploded ordnance from Kahoʻolawe's surrounding waters or the removal and mitigation of any hazardous or toxic waste, should it be found. Cost estimates are made in accordance with the best information currently available, based on findings of KICC consultants. They are estimates only and are submitted by way of illustration—not by way of limitation. KICC restates its position that the federal government must bear all costs and liability for Kahoʻolawe's clean-up and restoration in accordance with the requirements of Executive Order No. 10436.

### Unexploded Ordnance and Solid Waste Clearance

Clearance of unexploded ordnance from Kahoʻolawe to standards in accordance with planned land uses can be accomplished. KICC's consultant notes that "circumstances related both to Kahoʻolawe's military history and to its planned future uses are in many ways ideal for the rehabilitation of the island."

Kahoʻolawe has never been a war zone. Rather, it has been used only as a target range. There are no mines on the island that could detonate when disturbed and the residual explosive hazard on the island and in its surrounding waters is the result of failures of items to detonate as planned.<sup>97</sup> Moreover, no evidence exists of any hazardous or toxic chemical waste being present. Thus, the problem of unexploded ordnance and solid waste is solvable and the island's unexploded ordnance contamina-

tion can be reduced and managed to an acceptable level while natural processes take hold and permanently restore the island.

The estimated cost for clearance and removal of unexploded ordnance is \$72 million. This is based on a five-year, phased plan using a clearance team of about 120 individuals and an annual total expenditure of \$15 million to \$16 million—exclusive of infrastructure development. The first phase involves the construction of the infrastructure required to accomplish clearance and removal, and soil conservation activities. A major item in this phase is the development of an adequate road and trail system on the island. The second phase will focus on the actual clearance and removal of unexploded ordnance from priority areas chosen, generally, for their importance to soil conservation activities or cultural activities. The third phase will involve the clearance of broad lower priority areas and would primarily involve surface or shallow surface clearance. The fourth and final phase will be ongoing and will involve continual, onsite monitoring by rangers or *kahu ʻāina*. These individuals would be trained as unexploded ordnance observers and provided with means to mark newly discovered ordnance for later removal by trained explosive ordnance disposal (EOD) personnel.

All unexploded ordnance cannot removed from the island, for many items are estimated to be 10 feet to 15 feet below the surface and to remove these would be to destroy the environmental integrity and the archaeological and historical resources of Kahoʻolawe. As an alternative, KICC is recommending that the degree of unexploded ordnance clearance be based upon intended human use. It is anticipated that much of the island will be valued for its natural state and, therefore, will require surface clearance or minimum subsurface clearance only.



## Restoring a Cultural Treasure

Required infrastructure for the clearance and removal of unexploded ordnance includes basic facilities for housing work crews and their equipment and facilities for removing tons of solid waste. Support facilities for water, electrical, and road systems development will also have to be constructed. The estimated total cost for development and maintenance of these facilities is \$15 million.

These estimates do not consider any costs for the mitigation of hazardous or toxic wastes, should they be found on the island or in its surrounding waters. KICC is, however, including funds to undertake an initial sampling and analysis survey for potentially hazardous and toxic waste. KICC estimates that this Site Characterization Study will cost \$1 million. Thus, the overall cost estimate for unexploded ordnance clearance and removal, for the construction and maintenance of related infrastructure, and for conducting a Site Characterization Study is \$88 million.

### Unexploded Ordnance and Solid Waste Clearance

Clearance and Removal	\$72.0 million
Infrastructure	\$15.0 million
Site Characterization Study	\$ 1.0 million
<b>Total</b>	<b>\$88.0 million</b>

## Soil Conservation Activities

A number of proposed soil conservation activities have as their goal the ultimate restoration of the island and its numerous resources. These activities include projects for soil erosion abatement, water resource development, historical preservation, and biological critical habitat restoration. The total estimated cost for these activities is \$21.6 million. This estimate reflects a short-term expenditure and may not be adequate for long-term management. Although the resources of Kaho'olawe may not be totally restored when these projects are completed, the island's restorative processes will have been set into motion and will have advanced to a point where environmental stabilization will be achieved in fairly rapid order.

### Soil Conservation Activities

<b>Total</b>	<b>\$21.6 million</b>
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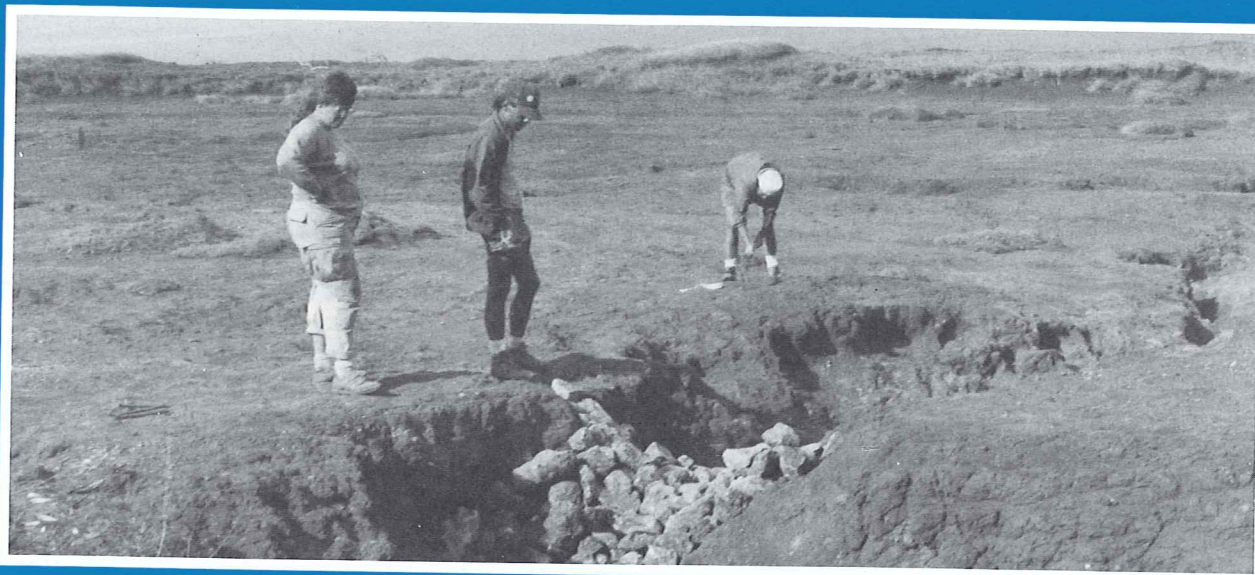
*Attempt to control erosion using Tamarisk trees  
(Photo Courtesy of the U.S. Navy)*

## Soil Erosion Abatement

These projects form the basis for stemming soil erosion on the island. They include soil erosion control through check dams and terracing in concert with large-scale reforestation and revegetation. Efforts will be geared to specific watersheds—on a priority basis—particularly in areas with large areas of hardpan that are undergoing large-scale gullying. Reforestation and revegetation projects will use native plant species whenever possible. Prior and current work of the U.S. Navy, the State of Hawai'i, and the Protect Kaho'olawe 'Ohana form the basis for these projects. Continued grassing of hardpan areas and systematic planting of windbreaks aimed at stemming the impacts of wind erosion are of particular importance. The redesign and development of infrastructure, such as roads and trails, that complement efforts to stem erosion and employ the natural forces of wind and water to enhance the island's environment will be needed in concert with



## Findings and Recommendations



*Before: construction of check dam at Lua Makika  
(Photo Courtesy of the Protect Kaho`olawe `Ohana)*

reforestation and revegetation projects. Estimated costs for these projects are reflected in the Infrastructure section for clearance and removal of unexploded ordnance and related solid waste. The estimated cost for soil erosion abatement activities is \$10 million.

### Soil Erosion Abatement

Check Dam/Terracing Activities	\$ 3.0 million
Reforestation/Revegetation	<u>\$ 7.0 million</u>
<b>Total</b>	<b>\$10.0 million</b>

### Water Resource Development

Kaho`olawe's water supply comes from two major sources—rainfall and groundwater. A third potential source is the surrounding ocean. These projects will focus on all three of these sources. The most available source of water on the island is rainfall. Historically, rainfall has provided the bulk of water needed for the island and continues to offer the greatest potential for development. The cisterns need to be revitalized and additional catchment facilities need to be developed. One suggestion is that the island's road system be improved to act as a catchment for rainfall harvesting. Water from this source could be readily available for soil abatement projects involving reforestation and revegetation

efforts. Although groundwater exists, its sustainable yield and quality are uncertain and will not be known until a test well is completed. A test well has been included in this cost estimate. Water from such sources would be used only to meet human needs and only when no other water resource is available. A final source of water would be desalinization of ocean water. The U.S. Navy is currently planning a small facility at Hanakanaia. This facility could be expanded, or perhaps, an additional small facility could be constructed at one of the other proposed points of access to and from the island. The total estimated cost for water resource development is \$7.2 million.

### Water Resource Development

Rainfall Harvesting	\$5.2 million
Groundwater Development	\$1.4 million
Desalinization Facility	
Development	<u>\$ .6 million</u>
<b>Total</b>	<b>\$7.2 million</b>

### Historic Preservation

These projects are an important component of the soil conservation activities proposed for Kaho`olawe. Most of the island's archaeological and historical resources are affected by the island's



## Restoring a Cultural Treasure

erosion. The stabilization and interpretation of these sites and areas will assist not only in preserving the island's heritage, but also in stemming the impacts of erosion. In addition, the development of an ongoing historic preservation program for Kaho'olawe will serve as a model for other historic preservation programs in the state and on the U.S. mainland.

### Historic Preservation

Total

\$ 3.0 million

### Biological Critical Habitat Enhancement

These projects, like those noted above, compliment soil conservation activities on the island by enhancing areas deemed critical for the survival of specific endangered native plant and animal species, and securing them from the impacts of soil erosion. Specific activities incorporated within these projects have been noted earlier in the recommendations noted under Flora and Fauna.

### Biological Enhancement

Total

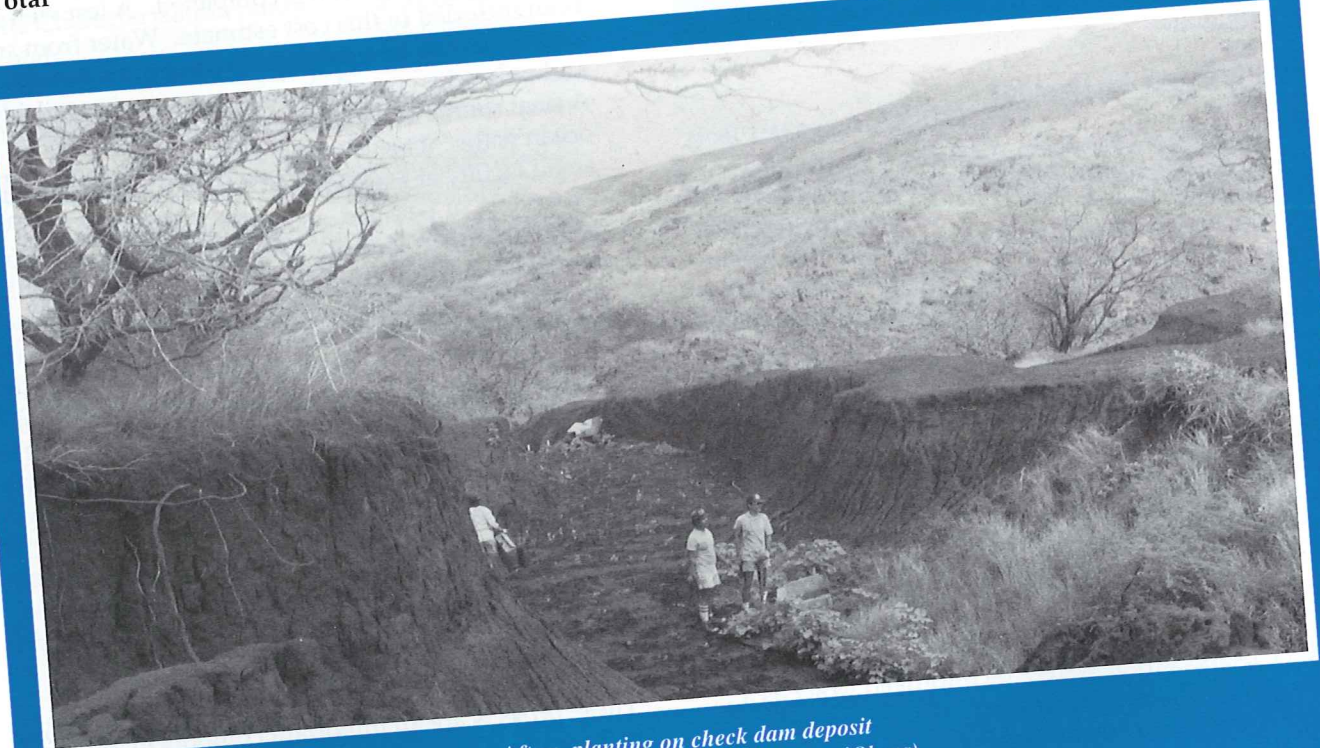
\$ 1.4 million

### Fencing and Signage

KICC views the use of fences as a management tool, primarily to alert individuals to sensitive and fragile areas and to areas that are hazardous to life and limb. Signage will be required both to alert individuals to dangerous areas and to educate visitors about archaeological and historical sites or unique environmental resources in given location. Because access to the island and its surrounding waters will be carefully controlled and supervised, and because there are no longer any feral animals that need to be controlled by fences, KICC believes that appropriate signage is equally important to fencing. The total estimated cost for fencing and signage over a 5-year period is \$400,000.

### Fencing and Signage

Fencing Materials and Installation	\$ 185,000
Fence Maintenance (5 years)	90,000
Signage and Installation	100,000
Sign Maintenance (5 years)	25,000
<b>Total</b>	<b>\$ 400,000</b>



After: planting on check dam deposit  
(Photo Courtesy of the Protect Kaho'olawe 'Ohana)



## Findings and Recommendations

*"What we saw when we excavated the site was fire cracked or naturally cracked rocks, arranged in a context that would lead one to believe it was used as a fireplace or earth oven. From that you can take off on a number of preliminary conclusions, including that it was at least a temporary habitation or campsite."*

*Farley Watanabe, State Historical Sites Specialist,  
Honolulu Advertiser, November 25, 1976*

## Total Expected Costs (In Millions of Dollars)

### Unexploded Ordnance and Solid Waste Clearance

Clearance and Removal	\$72.0		
Infrastructure	\$15.0		
Site Characterization Study	\$ 1.0		
<b>Total</b>			<b>\$88.0</b>

### Soil Conservation Activities

Soil Erosion Abatement			
Check Dam/Terracing Activities	\$ 3.0		
Reforestation/Revegetation	\$ 7.0		
<b>Total</b>		<b>\$10.0</b>	

### Water Resource Development

Rainfall Harvesting	\$5.2		
Groundwater Development	\$1.4		
Desalinization Facility Development	\$ 0.6		
<b>Total</b>		<b>\$7.2</b>	

### Historic Preservation

Historic Preservation Program	\$ 3.0		
<b>Total</b>		<b>\$ 3.0</b>	

### Biological Critical Habitat Enhancement

<b>Total</b>		<b>\$ 1.4</b>	
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### Total Soil Conservation

\$ 21.6      \$21.6

### Fencing and Signage

Fencing Materials and Installation	\$ 0.185		
Fence Maintenance (5 years)	0.090		
Signage and Installation	0.100		
Sign Maintenance (5 years)	0.025		
<b>Total</b>		<b>\$ 0.400</b>	<b>\$0.4</b>

### TOTAL FOR ALL PROJECTS

**\$110.0**

# PART V



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## Future Directions

*Offering at Ko`a near Hakioawa  
(Photo courtesy Franco Salmoiraghi)*



## Restoring a Cultural Treasure

**K**aho`olawe is a special place, a *wahi pana* and *pu`uhonua*. Although Kaho`olawe and its surrounding waters qualify as a park under state law, the Commission recommends that this park be established in perpetuity for the specific purposes enumerated in this report. These purposes are to:

- Study and practice traditional and contemporary Native Hawaiian culture, including religion;
- Study and preserve archaeological and historical sites, structures, and remains;
- Undertake soil conservation and plant reforestation and revegetation activities; and
- Study and enhance native plant and animal habitats and communities.

The Commission also takes the position that the entire island of Kaho`olawe and its surrounding waters should be considered as integral and related parts of this park, both of which can be made safe for specific human uses that complement the identified purposes noted above.

Future management of Kaho`olawe, its resources, and the resources of the surrounding waters must be based on protecting and preserving those resources for use by today's generation and for generations to follow. KICC has identified and mapped these resources based upon its current understanding of their location and extent. These resources have been identified, generally, as cultural, environmental, and development districts for the island and its sur-



Contemporary Hawaiian hale at Hakioawa.  
(Photo Courtesy Rowland Reeve)

*"Park" means an area which, by reason of location, natural features, scenic beauty or legendary, historical, or scientific interest, possesses distinct physical, aesthetic, intellectual, creative, or social values.*

Hawaii Revised Statutes 184-1

rounding waters and are presented as guides for future management planning. Future activities should not infringe upon the resources identified in these districts.<sup>98</sup>

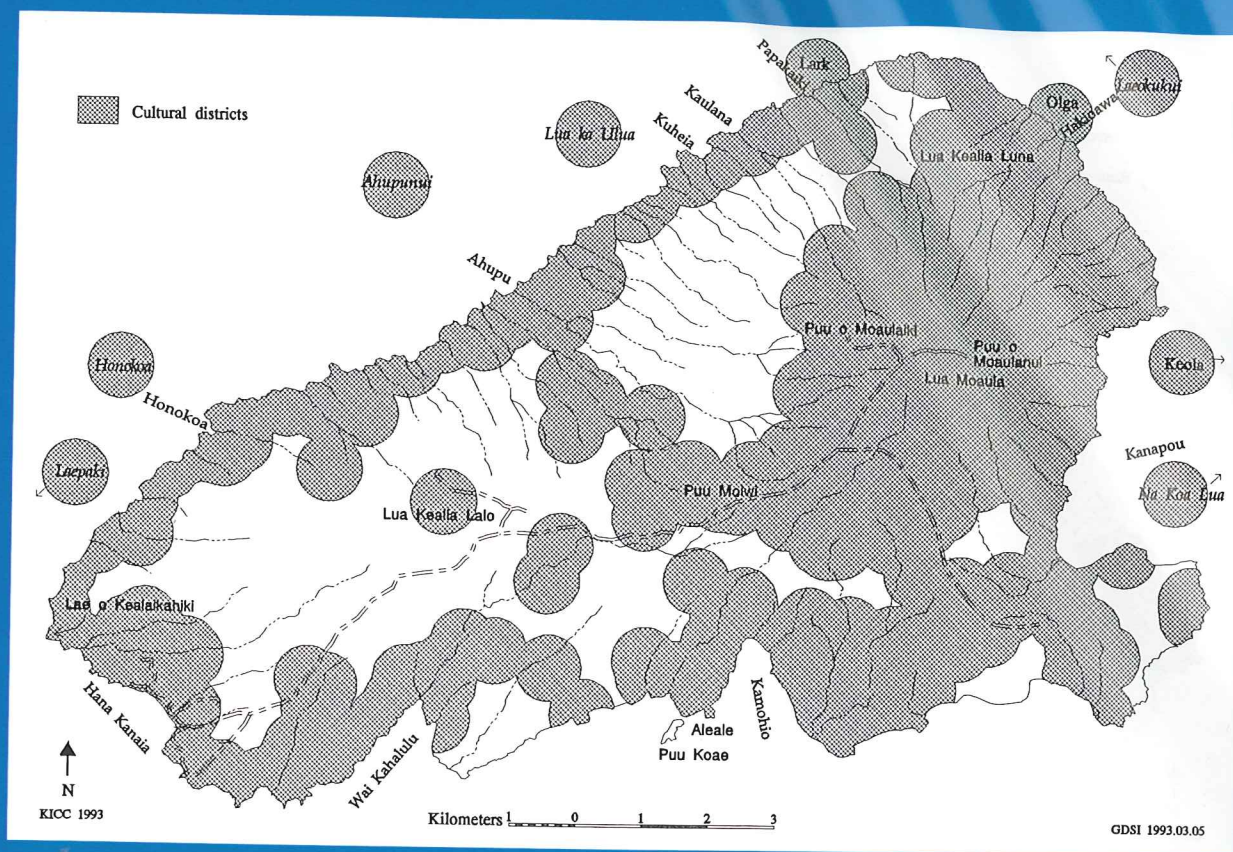
### Cultural District

This district encompasses all the man-made or utilized features of the island and its surrounding waters that relate to life as it was practiced on the island. It includes all of the island's archaeological and historical sites, structures, and remains and areas that hold special meaning or significance because of past or contemporary events and practices (Map 9). The following items are included in this district.

- **Settlement Areas**—locations where populations of Native Hawaiians and others lived. Such sites have house platforms, shelters, and various other related structures, and include pre-1778 areas as well as historical areas, such as the penal colony site and areas associated with the island's ranching and military activities.
- **Religious Sites**—areas with remains or structures that were or continue to be used for Native Hawaiian religious purposes and practices. These include areas where there are burials.
- **Work Sites**—areas where the Native Hawaiian population undertook or continues to undertake various activities related to its livelihood, including rock quarries, agricultural field systems, petroglyph areas, and fishing areas.



## Map 9. Cultural District



*"Seeing the sites was like stepping back into the 12 or 13th century. It's a natural, living museum. Not like the Bishop Museum, where you see the artifacts behind glass cages."*

*Charles Burrows, teacher, Kamehameha Schools;  
Honolulu Star-Bulletin, April 27, 1981*

- **Legendary Sites**—areas associated with or identified in the island's legends, chants, and various oral traditions.
- **Shipwreck Sites**—locations of known shipwrecks or sinkings that occurred on the island or in its vicinity.<sup>99</sup>

## Environmental District

This district includes all areas or sites that are either undergoing extreme environmental stress, such as the hardpan area, or are of significance because of their native plants or animals.

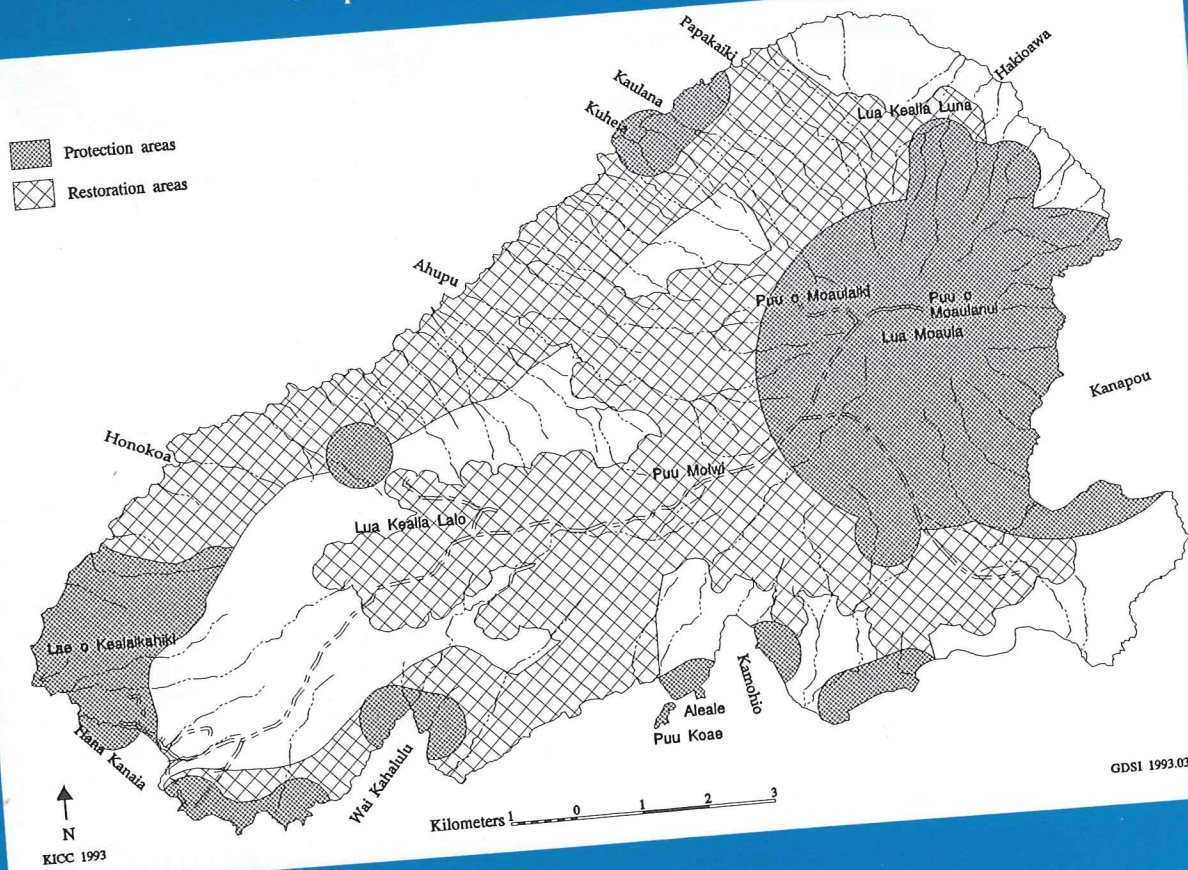
Kaho'olawe's hardpan area is extremely sensitive to wind and water erosion. Because erosion is the island's primary environmental problem, this area has been specifically identified. KICC proposes that soil conservation measures be continued and expanded in this area, utilizing a strategy based on stabilizing the island's individual watersheds.

Numerous native plant and animal species have been identified on the island, including a new plant genus. Many of these species are on the federal list of rare or endangered species and are in need of



# Restoring a Cultural Treasure

## Map 10. Environmental District



active management. These include not only individual plant and animal species, but also native communities, particularly some of the native plant communities (Map 10). Two areas are included in this district:

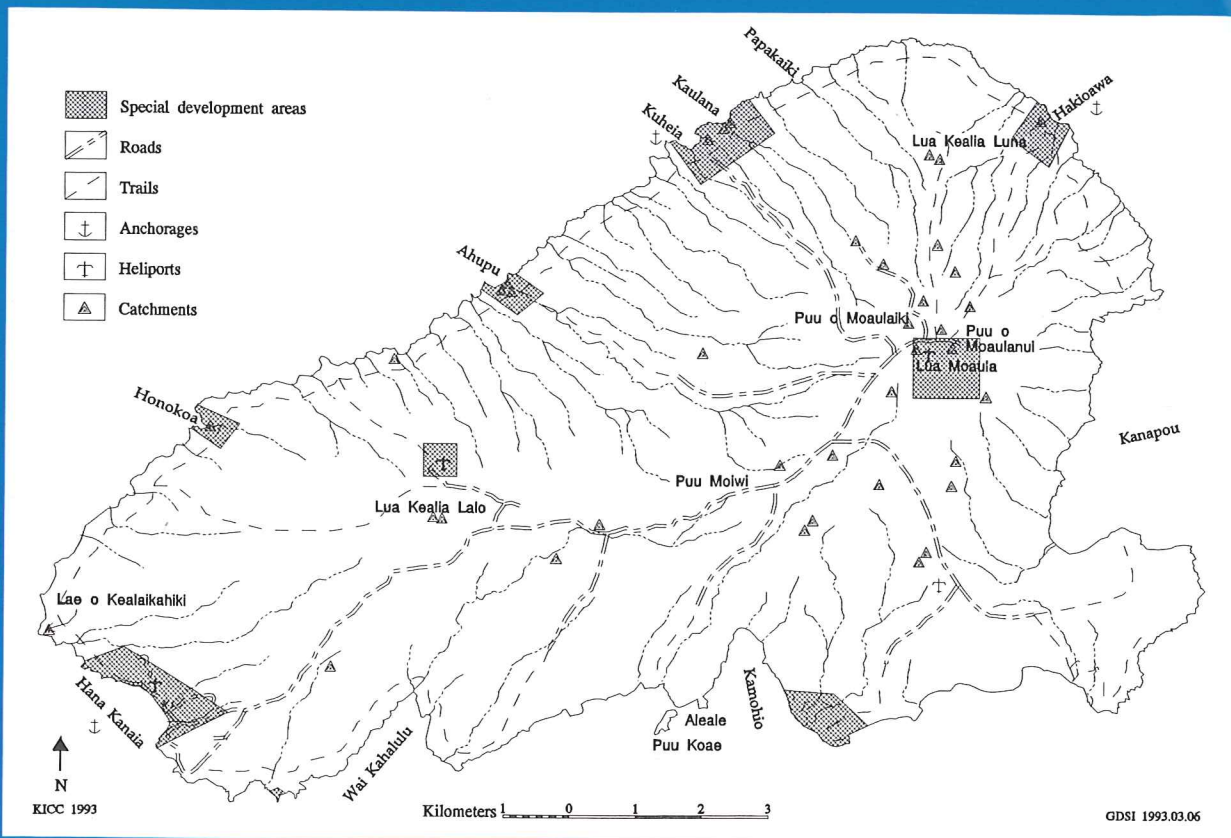
- **Hardpan Area**—the location of the island's hardpan, an area needing special attention to alleviate erosional problems (restoration).
- **Critical Habitats**—locations that require active management of rare or endangered species living within them or utilizing them, or are the state's finer or finest examples of particular native plant or animal communities (preservation).

## Development District

This district includes all the existing and proposed infrastructure necessary to clean up and restore the island and its surrounding waters and to carry out the specific purposes to which the island and its surrounding waters are dedicated. Although basic infrastructure is already in place, KICC anticipates that improvements and additional facilities will be required to complete cleanup and restoration activities (Map 11). It is assumed that any new infrastructure will be designed and constructed with the intent that it also serve the island's purposes once these activities have been completed. The island's existing infrastructure and anticipated improvements include the following.



## Map 11. Development District



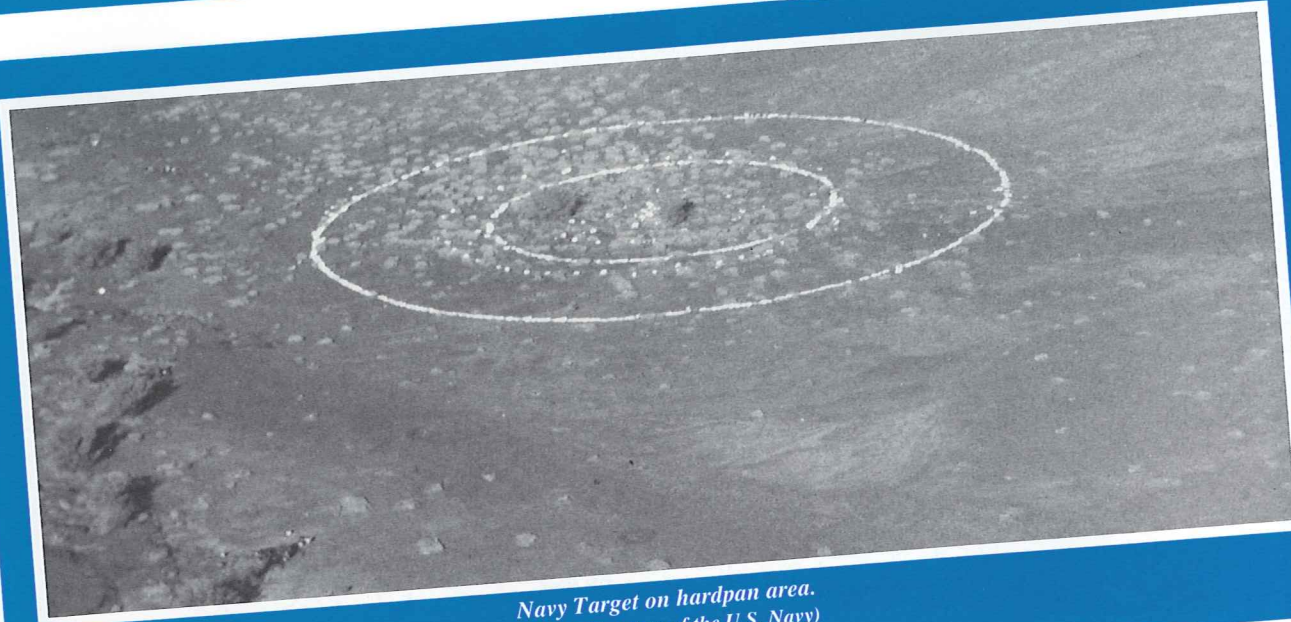
- **Roads and Trails.** An unimproved road system links the two ends of Kaho`olawe. Rough trails, generally, provide access from the road system to coastal areas. Currently, there is no recognized coastal trail around the perimeter of the island. Anticipated road improvements include developing a basic all-weather road system that extends to an all-weather access point at Kuheia Bay and developing an integrated trail system between coastal areas. It is critical that the island's road and trail system be designed to assist soil conservation efforts rather than inadvertently providing a means for additional soil erosion.
- **Water Development.** Water is essential for all activities on the island. The military now imports water for human use and utilizes

water catchment in its camp. Additional water development is anticipated and includes developing a test well and restoring the old cisterns and tanks used during the ranching eras. Two unique ideas also include developing a desalinization capacity on the island and using the improved road system as a means for water catchment.

- **Special Development Area (SDA).** These are areas for special purposes that require infrastructure development.
- **Monitoring Facilities.** It is anticipated that field way-stations will be needed for supplies storage. These stations may evolve into monitoring stations, or ranger stations, after clearance activities have been completed. They could also serve an important dual function in



## Restoring a Cultural Treasure



*Navy Target on hardpan area.  
(Photo Courtesy of the U.S. Navy)*

monitoring activities on the island and in its surrounding waters and in providing living facilities for visiting researchers and rangers, or *kahu`aina*.

- **Living Facilities.** During cleanup and restoration activities, there may be a need to house and support up to 150 people on the island for extensive periods of time. The current military camp at Hanakanaia Bay may well serve as the center for developing these facilities. Once cleanup has been accomplished, these facilities could become the major living facilities for groups of individuals visiting or living on the island.
- **Visitor Center and Museum.** It is anticipated that many people will want to visit the island. There needs to be an area designated for their arrival and departure. A small visitor's center

and museum could be developed. *Kahu`aina* would meet visitors and educate them about the island and its culture and history. A day visitation may include trips to Kaulana Bay, Pu`u Moaulaiki, Pu`u Moaulanui, Hanakanaia Bay, and points along the southern coast.

- **Anchorage and Boat Landings.** Specific sites for boat landings and anchorages have historically been identified. A number of these sites may also have to be used for removal of solid waste materials during cleanup activities.
- **Aircraft Landing Areas.** Although the Army Air Corps had an unimproved landing strip on the island in the late 1920s, there are no plans to construct any airfield on the island. Helicopter landing zones established by the military will be kept operational for supplying the island and for emergency situations.

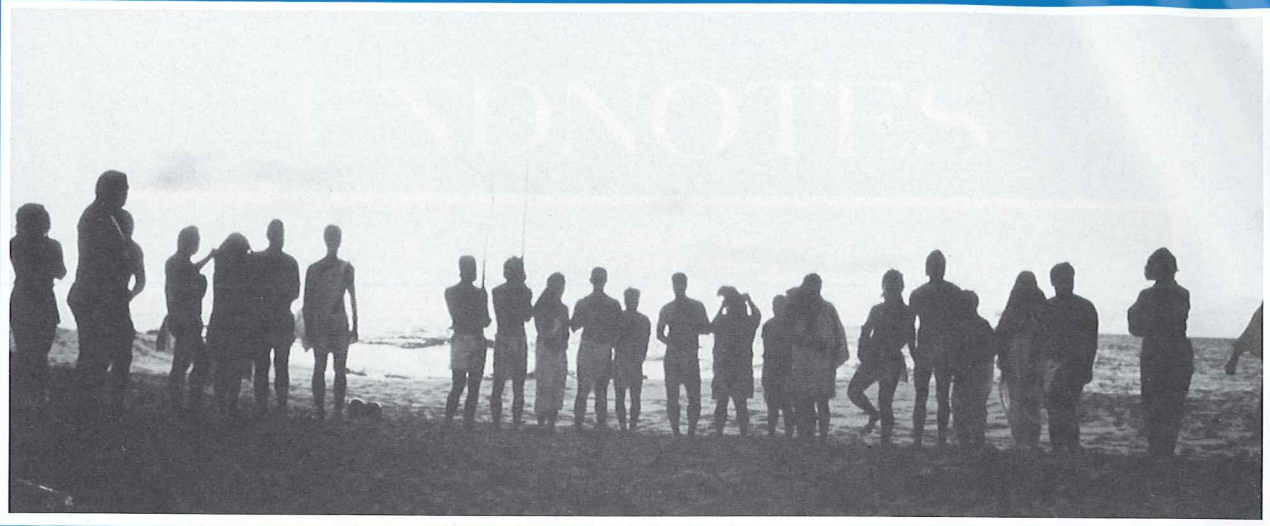
*"Kaho`olawe has educated me and many other Hawaiians about our identity as a unique and important contributor to the cultures of the world."*

*Adatchie Eaton, Hilo Public Hearing, May 8, 1991.*

*Ua Mau Ke Ea O Ka `Aina I Ka Pono.*

*The Life of the Land is Preserved in Righteousness.*





(Photo Courtesy G. Brad Lewis)

### A FINAL NOTE

In August 1992, Kaho`olawe was the place and the focus for three days of rededication and spiritual renewal. More than 300 people from throughout the state and from various Native American Nations joined to remember the island's past and to acknowledge all those who have sought its return over the decades. Participating in the event were members of Hawai'i's Congressional delegation and the Governor of the State of Hawai'i. In his concluding remarks, Governor John David Waihee spoke of this experience.<sup>100</sup>

I need to say something because it was thrilling to sit back and to think back to 1976, 1977, and 1978 when this was all talk and we were all working for the return of Kaho`olawe. Who would have thought the day would come that the Governor of the State of Hawai'i and a United States Senator and a United States Congressman would be . . . here on this *aina*. This is incredible, absolutely incredible, where we have come and how far we have gone.

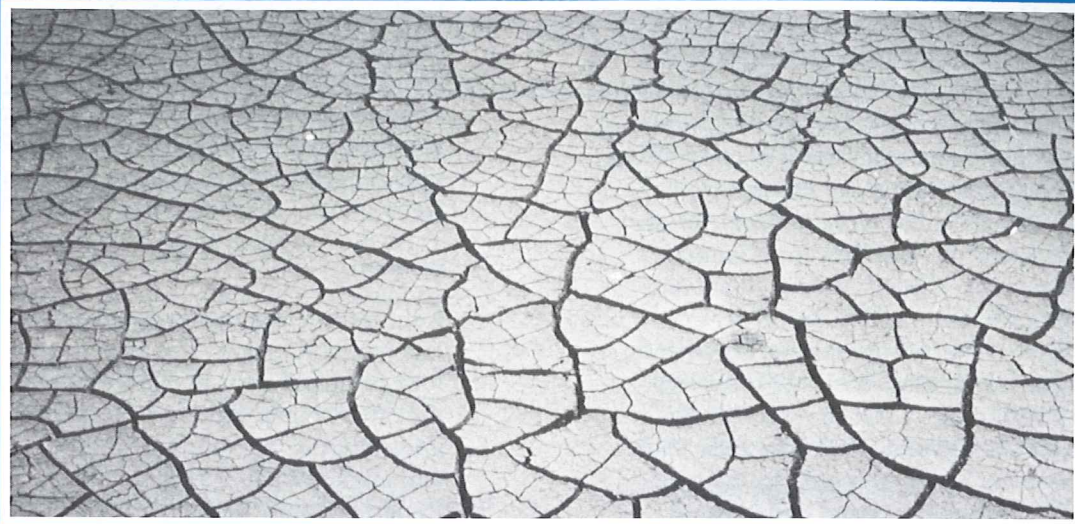
The nation of Hawai'i has always existed. There are periods of time when it is asleep. It is now currently being reaffirmed . . .

but I can tell you, were it not for Kaho`olawe we would not have the foundation that we stand upon today. It is here that we found that when we talked about things Hawaiian, it meant more than something economic or something political. It was something spiritual, it was special. And the pain of Kaho`olawe made the foundation for us to stand once again and to reaffirm a nationhood; that is what the significance of this movement is . . . . And this island, this day, this celebration, is our opportunity to look back and to acknowledge those that laid the foundation for all of us so that we can pass it on to future generations.

And so this Commission concludes its report and a new chapter begins for others to write. Whatever is said, may it be truthful and do justice to all people, Native Hawaiian and non-native, civilian and military, who have felt upon their cheeks Kaho`olawe's *na`ulu* winds and rains, or who have bathed in its clear waters or been enveloped by its red dust. For they are the ones who will carry with them forever Kaho`olawe's story.



# ENDNOTES



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*Kaho'olawe's hardpan*  
(Photo courtesy Rowland Reeve)



## Restoring a Cultural Treasure

- 1 Stearns, Harold T. "Geology and Ground-Water Resources of the Islands of Lanai and Kahoolawe," *Hawaii Division of Hydrology Bulletin* 6, Honolulu, 1940, pp. 140-143.
- 2 Naughton, J.J., G.A. MacDonald, and V.A. Greenberg. "Some Additional Potassium-Argon Ages of Hawaiian Rocks: The Maui Complex of Molokai, Maui, Lanai, and Kaho`olawe," *Journal of Volcanology and Geothermal Research*, vol. 7, 1980, pp. 339-355. **For more information see:** Harold T. Stearns. "Geology and Ground-Water Resources of the Islands of Lanai and Kahoolawe, Hawaii" with Gordon A. MacDonald. "The Petrography of Lanai and Kahoolawe" in *Hawaii Division of Hydrology Bulletin* 6, Honolulu, 1940, pp. 117-175 and Watershed Management Systems. *Kaho`olawe Water Resources Study*, prepared for State of Hawai'i Department of Land and Natural Resources (DOWRM), October 1990, pp. 62-67.
- 3 Pukui, Mary Kawena and Samuel H. Elbert. *Hawaiian Dictionary*, Honolulu, 1986, p. 113.
- 4 This version of the birth of Kaho`olawe by Pakui appears in Abraham Fornander. *Fornander Collection of Hawaiian Antiquities and Folklore*, vol. 4, Bishop Museum, Honolulu, 1916-1919, p. 12.
- 5 "Kohemalamamalama" can be translated in this instance as the "resting place;" the inference being that the island served as the place where Kanaloa returned to rest and resuscitate after his sojourns around the Pacific islands. Noted *kupuna*, Harry Kunihi Mitchell, has provided a number of additional names and insights about them. In an interview in 1976 he noted, "That island has a lot of names: We call it Kanaloa, one of the gods of the Hawaiian nation. Then there's another name. When they came in and saw that island they called it *kohema*. *Kohema* means to your left. Naturally they came in to the right so they saw this island, that's the first island malamalama, to your left and light up. Sometimes, they call that island 'the bone of the land is showing'—*kukulu ka`iwi*. When they see land they don't talk about *aina*, they talk in parables. They say *kukulu ka`iwi*, meaning 'I see the bone of the land.' But actually, it's the land

itself, or the mountains. . . . *o ka`iwi* means mountains. Another name for this island is *hine li`i*, is the rain goddess. *Li`i* means small, so, we have little rain on that island, not much, so they call it 'little rain island' and they say *hine li`i*. Kaho`olawe . . . Another name is *kahiki moe*—where the sun goes to sleep. That's the chants of my ancestors, the *kupuna*. They say, 'The sun goes to sleep off Kaho`olawe or behind Kaho`olawe'" (Susan Halas. "Harry Mitchell Talks Story," *Maui News*, TV Guide insert, Feb. 17, 1979.

Kaho`olawe was referred to in chants and legends as Kanaloa. Kanaloa was one of the four principal gods in Native Hawaiian religion; the others being Kane, Ku, and Lono. These gods, or *akua*, are found throughout Polynesia and are known as Tangaroa, Tane, Tu, and Rongo in Tahiti, Samoa, Tonga, the Cook Islands, and elsewhere. In Native Hawaiian religion, these four deities personify natural forces. Kanaloa is recognized as the *akua* of the ocean and ocean winds and things relating to fishing. Kanaloa and Kane are often associated together in their human forms and noted for their opening up fresh water springs. **For more information see:** KICC Special Report by The Kanaka`ole Foundation. *Kaho`olawe's Living Cultural Heritage*, Hawai'i, 1993; Rubellite Kawena Johnson. "Native Hawaiian Religion" in *Native Hawaiian Study Commission Report—Report on the Culture, Needs and Concerns of Native Hawaiians (Majority Report)*, Washington, D.C., 1983, p. 226; Te Rangi Hiroa. *Arts & Crafts of Hawaii-Religion*, Bishop Museum Spec. Pub. 45, Honolulu, 1957, pp. 465-580; and Mary Kawena Pukui. *Hawaiian Religion*, Honolulu, 1963.

- 6 The English references were made on Captain James Cook's last voyage to the Pacific and appear in Cook, Clerke, and Gore. *A Voyage to the Pacific Ocean . . . Performed Under the Direction of Captains Cook, Clerke, and Gore, In the Years 1776, 1777, 1778, 1779, 1780*, vol. 2, Philadelphia, 1818, p. 101.
- 7 Ellis, William. *Polynesian Researches, During a Residence of Nearly Eight Years in the Society and Sandwich Island*, London, 1853, p. 9.



## Endnotes

- 8 Extract from a letter from the Rev. William Richards, dated April 14, 1828 in Hawai'i Mission Children's Society Library, *The Missionary Herald*, II, p. 54.
- 9 Kaleikuahulu, a high-ranking member of Kamehameha I's court, composed this chant. The chant is the Creation story, according to the "Haumea" tradition. It was recorded in Abraham Fornander, *Fornander Collection of Hawaiian Antiquities and Folklore*, vol. IV, Bishop Museum, Honolulu, 1916-1919, p. 24, 360. See also: David Malo. *Hawaiian Antiquities*, Bishop Museum Special Publication 2, Honolulu, 1971, p. 243.
- 10 Martha Beckwith (ed.). *Kepelino's Traditions of Hawaii*, *Bishop Museum Bulletin* 95, Honolulu, 1975 (Kraus Reprint), p.187-88.
- 11 **For more information see:** KICC Special Report by The Kanaka'ole Foundation, *Kaho'olawe's Living Cultural Heritage*, Hawai'i, March 1993, and Environmental Impact Study Corp. (Carol Silva). *Kahoolawe Cultural Study, Part 1, Historical Documentation* prepared for the Pacific Division, Naval Facilities Engineering Command, U.S. Navy, Pearl Harbor, Honolulu, April, 1983, pp. 1-14.
- 12 **For more information see:** Te Rangi Hiroa (Sir Peter Buck). *The Vikings of the Pacific*, Chicago, 1972; Rubellite K. Johnson and Wilhelm G. Solheim. "Implications of the Distribution of Native Vernacular Names for Cotton in the Indo-Pacific," *Asian Perspectives*, vol. XXIII, no. 2, 1980, pp. 249-307; Kamohoula. "System of Astronomy and Astrology," *Knokas Home Rula*, vol. 9, no. 16, Honolulu, April 30, 1909. Patrick Kirsch. *Feathered Gods and Fishhooks*, Honolulu, 1985; Will Kyselka and George Bunton. *Polynesian Stars and Men*, Bishop Museum Science Center, Honolulu, 1969; and Rear Admiral Hugh Rodman. "The Sacred Calabash," *U.S. Naval Institute Proceedings*, vol. 53, no. 294, August, 1927, pp. 867-872; Armondo Da Silva and Rubellite K. Johnson. "Ahu a 'Umi Heiau—A Native Hawaiian Astronomical and Directional Register," *Annals of the New York Academy of Sciences*, 1982, pp. 313-331; and Maude Makeson. "Hawaiian Astronomical Concepts," *American Anthropologist*, vols. 40-41, 1939, pp. 370-383 and 589-596.
- 13 **See:** Rubellite Kawena Johnson. "From the Gills of the Fish: The Tahitian Homeland of Hawai'i's Chief Mo'ikeha," *Pacific Studies*, vol. III, no. 1, 1979, pp. 51-67 and KICC Special Reports by Rowland Reeve. *Na Wahi Pana O Kaho'olawe—The Storied Places of Kaho'olawe and The Place Names of Kaho'olawe*, Honolulu, December 1992.
- 14 **For KICC special reports on archaeological resources see:** Associated Rock Art Consultants. *Kaho'olawe Petrophyphs Summary and Inventory*, Phoenix, in preparation; Michael Graves and Gail Murakami. *Kaho'olawe Settlement—Revisiting the Island's Settlement Dates*, Hawai'i, in preparation; Rubellite Kawena Johnson. *Kaho'olawe's Astro-Archaeological Resources*, Hawai'i, March 1993; Patrick McCoy, Attwood Makanani, and Aki Sinoto. *Pu'u Moiwai*, Hawai'i, March, 1993; and Rowland Reeve. *Na Wahi Pana O Kaho'olawe—The Storied Places of Kaho'olawe*, Hawai'i, December 1992.
- 15 **For more information see:**
  - **Prehistory:** Robert J. Hommon. *Use and Control of the Hawaiian Inter-Island Channels—Polynesian History: A.D. 1400-1794*, Office of the Governor, State of Hawai'i, 1975; Legislative Reference Bureau. (Bina Chun). *Kaho'olawe: Aloha No*, Honolulu, State of Hawai'i, 1976.
  - **General:** Peter MacDonald. "Fixed in Time: A Brief History of Kahoolawe," *Hawaiian Journal of History*, vol. 6, 1972;
  - **Forest Reserve Period:** KICC Special Report by Hardy Spoehr. *Kaho'olawe's Forest Reserve Period 1910-1918*, Honolulu, January 1993.
- 16 For a comprehensive review of descriptions of Kaho'olawe by early European visitors to Hawai'i see Environment Impact Study Corp. *Kaho'olawe Cultural Study, Part 1, Historical Documentation* prepared for the U.S. Navy, April 1983, pp. 1-17.
- 17 The King's trip is reported in the Native Hawaiian language in two installments of *Ka Lahui Hawaii* dated 12/23/1875 (p. 2/c. 2) and 12/30/1875 (p.4/c. 2).
- 18 Goats were presented to Kahekili ("Titeeree") by Vancouver at the time of his leaving Maui in March 1793. He noted in his journal, "To Titeeree, I gave also some goats; and these being



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the first foreign animals imported into Maui, were regarded as a most valuable present . . . ."  
See: George Vancouver. *Voyage of Discovery to the North Pacific and Round the World*, vol. 2, Bibliotheca Australiana #31, Amsterdam, 1968, p. 199. It is interesting to note that petroglyphs depicting goats have been found at Ahupu. This may have been the center for the early caring of goat herds prior to sheep being introduced into the island.

- 19 Kuykendall, Ralph. *The Hawaiian Kingdom 1778-1854*, Honolulu, 1967, pp. 100-116.
- 20 *The Missionary Herald* (Hawaiiiana), II, p. 210 (for October 15, 1828) in the Hawaiian Mission Children's Society Library.

"In attention to the schools there has been no particular change during the last few months . . . . The following table is made out from the latest returns, and represents very nearly their present state."

	No. of Schools	Female Scholars	Male Scholars	Total	Those who were able to spell & recite reading lessons	Writers
Island of Kahoolawe	1	13	15	28	27	3

- 21 See KICC Special Report by Dr. Pauline King. *Kaho'olawe Island—The Uses of Its History*, Honolulu, March 1993, for a discussion of this period in Hawai'i's history and the use of Kaho'olawe as a penal colony.
- 22 Hiram Bingham. *A Residence of Twenty-One Years in the Sandwich Islands*, New York, 1848, p. 443.
- 23 Samuel Kamakau. *Ruling Chiefs of Hawaii*, Honolulu, 1992, pp. 356-357. 25. Thomas G. Thrum. "Kahoolawe—An Early Place of Banishment," *Hawaiian Almanac and Annual for 1903*, Honolulu, 1902, p. 122.
- 24 Thomas G. Thrum. "Kahoolawe—An Early Place of Banishment," *Hawaiian Almanac and Annual for 1903*, Honolulu, 1902, p. 122.
- 25 Ibid. See KICC Special Report by Dr. Pauline King. *Kaho'olawe Island—The Uses of Its History*, Honolulu, March, 1993, for a complete account

of the penal colony era on Kaho'olawe. The records from the Kinimaka case include the official court proceedings and the writings from the daily journal kept by the Judge in the case, Miriam Kekauluohi. Her journal is in the Hawai'i State Archives (William Charles Lunailo File). See Also KICC Special Report by Edith McKinzie. *Na Mo'i O Kaho'olawe—The Administrators of Kaho'olawe*, Honolulu, January, 1993, for a full discussion of Kinimaka and his relationship with Hawaiian ali'i.

- 26 The court records of the proceedings against George Morgan are in the Hawai'i State Archives. Complete records of other "foreigners" sentenced to Kaho'olawe include those for William H. Dean, sentenced in January 1849 for breaking into the Printing Office, and Anthony Jenkins, sentenced for burglary of James Campbell's house in January 1848 (Individual Name Index File and Court Records File).
- 27 Charles Wilkes. *Narrative of the U.S. Exploring Expedition During the Years 1838-1842*, Philadelphia, 1844, pp. 260-262.
- 28 Ibid., pp. 260-262
- 29 For more information see: KICC Special Reports by Joel August, Esq. *Comprehensive Legal Research Memorandum*, Wailuku, October 12, 1992, pp. 10-50; Jon Chinen. *The Great Mahele*, Hawai'i, 1978 and *Original Land Titles in Hawaii*, Hawai'i, 1961; Lilikala Kame'eleihiwa. *Native Land and Foreign Desires—Pehea La E Pono Ai?*, Honolulu, 1992; Shiro Kashiwa et al. *Memorandum—Interpretation of Section 5 of the Hawaii Statehood Act*, Department of the Attorney General, State of Hawai'i, October 18, 1960; Marion Kelly. "Changes in Land Tenure in Hawaii: 1778-1850," M.A. Thesis, University of Hawai'i, 1956; Land Study Bureau (Harold L. Baker). *State Lands of Hawaii*, Special Study Series Land Study Bureau Report No. 5, University of Hawai'i, July 1961; Neil Levy. "Native Hawaiian Land Rights," *California Law Review*, vol. 63, no. 4, 1975; Melody Kapilialoha MacKenzie (Ed.). *Native Hawaiian Rights Handbook*, Honolulu, 1991, pp. 3-77; William F. Quinn, Governor, State of Hawai'i. "Special Message on Federal Lands in Hawaii," 1st Legislature, State of Hawaii, April 25, 1961; and Thomas Spaulding. *The Crown Lands of Hawaii*, U.H. Occasional Paper No. 1, October 1923.



## Endnotes

- 30 P. Nahaolelua, Governor of Maui, and Ioane Richardson, a circuit judge from Maui, were sent by Kamehameha V to Kaho`olawe to report on the condition of the island and to ascertain "whether it is suitable for raising cattle or sheep," and to determine a "fair rental" for the land (Interior Department Letter Books: 7A, p. 51 in the Hawai`i State Archives). The following year, William F. Allen, who became Collector General of Customs for the Kingdom, was sent by Robert Wyllie and Elisha Allen, the first general lessees of Kaho`olawe, to inspect the island and to make recommendations about its future use as a sheep ranch. His report is in the Hawai`i State Archives (R.C. Wyllie Private Collection: 4/31/1858).

- 31 F. Bagot (ed.). *McKenney's Hawaiian Directory*, San Francisco, 1885, p. 337. An account of the Wyllie-Allen sheep ranch era is printed in Alfred Lomax. "Geographic Factors in Early Sheep Husbandry in the Hawaiian Islands (1791-1870)," *Hawaiian Historical Society 48th Annual Report for the Year 1939*, Honolulu, 1940, pp. 46-51; and many letters remain in the Wyllie collection at the Hawai`i State Archives which describe the hardships endured by the ranch in its early years.
- 32 The first year specific census data for Kaho`olawe has been found is 1866, though the government did conduct earlier censuses in 1850 and 1853. A missionary census conducted in 1832 estimates about 80 inhabitants on the island. See: Robert Schmitt and Carol Silva. "Population Trends on Kahoolawe," *The Hawaiian Journal of History*, vol. 18, 1984, pp. 39-4. Kaho`olawe's 1866 Residents seem to have been part of the sheep ranch operation. Census data is shown in the table above.

- 33 **For more information see:** William D. Alexander. *History of Later Years of the Hawaiian Monarchy and the Revolution of 1893*, Honolulu, 1896; Helena Allen. *The Betrayal of Lili`uokalani, Last Queen of Hawaii, 1838-1917*, Glendale, 1982; Native Hawaiian Study Commission. *Final Report*, vol. II (Minority Report), Honolulu, June 23, 1983; William Allen Russ. *The Hawaiian Revolution, 1893-1894*, Selingsgrove, 1959 (Reprint 1993); and United States Congress (53rd, 3rd Session: 1894-1895), House of Representatives. *Affairs in Hawaii*, 2 vols., Washington, D.C., 1895.

### Characteristics of Kahoolawe Residents: 1866

Name (Grouped by Household)	Sex	Age Group	Marital Status	Owns Kuleano	Place of Birth	Occupation*
Mamaawa	M	15-40	M	Yes	Kahoolawe	Hana lima
Nahinu	M	15-40	S	—	Kahoolawe	Hana lima
Kamoka	F	15-40	M	—	Wailuku	Malama `ohana
Keliikipi	M	<15	S	—	Honuaula	—
Hau	M	>40	M	Yes	Kahoolawe	Hana lima
Honohina	M	>40	S	—	Hawaii	—
Luaehu	F	>	M	—	Hawaii	Malama `ohana
Hau opio	M	<15	S	—	Kahoolawe	—
HO	M	>40	M	—	Kahoolawe	Hana lima
Nahookaika	M	<15	S	—	Kahoolawe	—
Makaikolani	F	>40	M	—	Olowalu	—
Kahihi	F	>40	S	—	Kahoolawe	—
Mr. Marston	M	>40	S	—	America	Shepherd
Kekoolani	F	15-40	S	—	Maui	Hana lima
I. Cook	M	>40	M	—	American	Shepherd
Mrs. Cook	F	15-40	M	—	Hawaiian	—
E. Cook	F	<15	S	—	Hawaiian**	—
I.E. Cook	M	<15	S	—	Hawaiian**	—

\* *Hana lima* means work hand; *Malama `ohana* means caretaker of families.

\*\* Half-caste.

Source: Census schedules in AH file, "Lahaina (includes Kahoolawe) 1899."

- 34 General Lease 115, originally issued in 1863, was terminated on August 25, 1910, when the Governor of Hawai`i, Walter F. Frear, proclaimed Kaho`olawe a forest reserve. The file for this lease and other Kaho`olawe leases are with the Land Management Division, Department of Land and Natural Resources, State of Hawai`i.
- 35 *The Honolulu Advertiser*, 2/9/1925, p. 3/c. 3-4. An account of the landing, also, is provided by Roscoe Wriston in his *Hawaii Today*, Garden City, 1926. Much of the information gathered on this first trip appears in a confidential report from Lt. Comdr. C. Davis Hartwell, Intelligence Officer, to Rear Admiral D. McDonald, Commandant, 14th Naval District, dated "Report week of 21 March 1927." A depiction of the airfield's location appears in the report which is filed in the Bishop Museum Archives (PSIC/Grp 1/Box 16). *For additional information about the Army Air Force in Hawai`i see:* Ted Darcy. *Army Aviation in Hawaii 1913-1941*, published by author, Kailua, April 1991.



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- 36 KICC debriefing paper with David Pedro, Rowland Reeve, and H. Rodger Betts, conducted at Wailuku, Maui, 9/20/1991. *For more information about Kaho'olawe's ranching eras see: KICC Special Report by Pauline King. Kaho'olawe Island—The Uses of Its History, Honolulu, March 1993; Inez Ashdown. "Kaho'olawe Retains an Old Hawaiian Custom," Honolulu Star Bulletin, February 12, 1938, p. 1/c. 1-5; Inez MacPhee Ashdown. Recollections of Kahoolawe, Honolulu, 1979; Francis Norris. "Kaho'olawe—Island of Opportunity," University of Hawai'i Research Paper, Spring 1991; and M.J. Tomonari-Tuggle and Laura A. Carter. "Archaeological Mapping of the Kuhe'eia Bay Ranch Site, Kaho'olawe Island, State of Hawai'i," Historic Sites Section, Department of Land and Natural Resources, State of Hawai'i, August 1984. Noted Maui author Armine Von Tempski made Kaho'olawe and its cattle ranching era the central focus of her novel *Dust*, New York, 1928 (Reprint 1991).*
- 37 Lease document dated May 10, 1941, between Kahoolawe Ranch Company and the United States of America is in G.L. 115 Lease File with the Land Management Division, Department of Land and Natural Resources, State of Hawai'i.
- 38 The issue of compensation for loss of the Maizie C and for improvements made on the island by the ranch became a subject of much debate and correspondence between the military, Mrs. Inez Ashdown, Angus MacPhee's daughter, and Hawai'i's territorial government officials in latter years (Correspondence in file in the Land Management Division and the Forestry and Wildlife Division, Department of Land and Natural Resources, State of Hawai'i).
- 39 Correspondence marked "Confidential" from Commander in Chief, U.S. Pacific Fleet, to Commanding General, U.S. Army Forces, Central Pacific Area, dated September 27, 1943, entitled "Use of Kahoolawe Island for Bombardment Training" with map showing "U.S.N. Artillery Range (Permissive Use from Army)" filed with the National Archives, Pacific Sierra Region, San Bruno, Record Group-181, Subgroup-14th ND District Staff Headquarters, Series-General Correspondence, Box-181-583204(V9504), Folder-FG12(2) Hawaiian Islands/Map of Use Area: Record Group-181, Subgroup-14th ND Staff Headquarters, Real Estate Division, Series-Real Estate Appraisals and Reports, Box-1, Folder-Maui and Hawaii (Oahu).
- 40 *Honolulu Star-Bulletin*, 8/16/1946, p. 19/c. 1-2 and 8/17/1946, p. 15/c. 5-7 "Kahoolawe Training School for Naval Gunners." Kaho'olawe's role as training area during World War II remains to be fully documented. Some accounts include: Carl W. Proehl. *The Fourth Marine Division of World War II*, Infantry Journal Press, 1946; Lt. Col. R.D. Heinl. "The Most Shot-at Island in the Pacific," *U.S. Naval Institute Proceedings*, vol. 73, no. 530, April 1947, pp. 397-399; and Grenfred Allen. *Hawaii's War Years, 1941-1945*, Honolulu, 1950.
- 41 *Honolulu Star-Bulletin*, 7/12/1943, p. 4/c. 5.
- 42 Extensive correspondence exists between territorial officials and military representatives in regards to Executive Order No. 10436. It is clear that all parties agreed that Kaho'olawe was to be restored for use after its tenure as a military training site. For more information see: KICC Special Report by Joel E. August, Esq. *Comprehensive Legal Research Memorandum*, October 12, 1992, pp. 40-50, 157, and correspondence files in the Land Management Division, Department of Land and Natural Resources, State of Hawai'i, and in the Department of the Attorney General, State of Hawai'i.
- 43 *Honolulu Star-Bulletin*, 2/8/1965, p. 1/c. 5-8. "Operation Sailor's Hat" was extensively covered by the Honolulu newspapers. These included: *Honolulu Star-Bulletin*, 12/21/1964, p. 1/c. 8; *Honolulu Star-Bulletin*, 1/12/1965, p. A-1B/c. 5-8; *Honolulu Advertiser*, 1/16/1965, p. C1 c. 1-4; *Honolulu Star-Bulletin*, 2/1/1965, p. C1 c. 1-8; *Honolulu Advertiser*, 2/2/1965, p. A2, c. 6-8; *Sunday Star-Bulletin and Advertiser*, 2/7/1965, p. 1/c.5; *Honolulu Star-Bulletin*, 2/8/1965, p. 1/c. 5-8; *Honolulu Star-Bulletin*, p. A2/c. 1-8; and *Honolulu Star-Bulletin*, 5/21/1966, p. B1/c. 1-8. Film footage of the Sailor's Hat explosion is on file at the U.S. Department of Defense, Motion Media Records Center, Norton Air Force Base, Riverside, California. A copy is available in Hawai'i through the Native Hawaiian film production company Na Maka O Ka Aina, Honolulu.
- 44 *For more information see: KICC Special Report by The Nature Conservancy of Hawai'i. Biological Database & Reconnaissance Survey of Kaho'olawe Island*, November 1992, pp. 17-18.



## Endnotes

- 45 Correspondence and report from Colin Lennox, President, Board of Agriculture and Forestry, to Governor Stainback, dated January 14, 1947, in correspondence file, Land Management Division, Department of Land and Natural Resources, State of Hawai'i. Although territorial officials desired the island's return, the Navy wanted to purchase the island's fee title. In correspondence from Rear Admiral E.W. Hanson, Acting Commandant, 14th Naval District, San Francisco, to the Honorable Ingram M. Stainback, Governor of Hawaii, Iolani Palace, Honolulu, dated May 23, 1946, the Admiral concludes:  
*In view of the above expressed desire of the Navy Department to acquire fee title to instant island, it is respectfully requested that the Territory of Hawaii cause a notice of cancellation of the basic lease to be issued and that thereafter an executive order in favor of the United States be issued abandoning the right of the Territory to use and possess the Island (Correspondence file, Land Management Division, Department of Land and Natural Resources, State of Hawai'i).*
- 46 On September 29, 1970, Senator Hiram Fong introduced a motion that the Navy stop bombing Kaho'olawe as an amendment to a provision in the military appropriations bill directing the Navy to cease bombing the Puerto Rican island of Culebra. He offered a similar amendment on the Senate floor on June 7, 1974 (See *Congressional Record-Senate*, June 7, 1974, pp. S10061-62).
- 47 Elmer F. Cravalho, *Individually, and as Mayor of the County of Maui, Life of the Land, a Non-Profit Hawaii Corporation v. Melvin Laird, Secretary of Defense, John Chafee, Secretary of the Navy, and Rear Admiral Thomas B. Hayward, Commander, Air Fleet Hawaii*, (Civil No. 713391), 1972.
- 48 A number of Native Hawaiian and Native Hawaiian groups and organizations were involved in focusing public attention on the Kaho'olawe issue prior to *Aluli v. Rumsfeld*. Individuals included Louis and John Agard, Melvin and Randy Kalahiki, Gard Kealoha, Charles Maxwell, Richard Hoopii, George Helm, James "Kimo" Mitchell, Emmett Aluli, Walter Ritte, Jr., Kawaipuna Prejean, Joyce Kainoa, Judy Napoleon, Collette Machado, Cynthia Thielen, Joel August and *kupuna* Edith Kanaka'ole, Clara Ku, Mary Lee, Iolani Luahina, Emma DeFries, and Sarah Kaauamo. Also, a number of organizations were active in the movement. These included Hui Alaloa, Life of the Land, the Coalition for Native Claims, the Council of Hawaiian Organizations, and the Queen Lili'uokalani Children's Center.
- 49 A number of "unauthorized" landings on Kaho'olawe were made between 1976 and 1977 to protest the Navy's continued use of the island. The first landing was organized by Kawaipuna Prejean of the Coalition for Native Claims, a nonprofit organization concerned with native rights issues. Most of the landings and their participants are noted below. Several individuals involved in these landings were prosecuted by the federal government, jailed, and, in some cases, remain barred from entry onto military facilities.
  - "Kaho'olawe Nine" Landing (1/3/1976): George Helm; Kimo Mitchell; Noa Emmett Aluli; Ian Lind; Ellen Miles; Walter Ritte, Jr., Kawaipuna Prejean; Steve Morris; and Karla Villalba
  - 2nd Landing (1/12/1976): Noa Emmett Aluli; Walter Ritte, Jr.; Loretta Ritte; and Scarlett Ritte
  - 3rd Landing (1/30/1977): Walter Ritte, Jr., Richard Sawyer, George Helm, Rae Mei Ling Chang, Charles Warrington, Jr., Francis Ka'uhane, Glenn Davis, and Karl Mowat
  - 4th Landing (2/6/1977)
  - 5th Landing (2/13/1977): Emma DeFries, Sam Lono, Papa Kala, Elmer Cravalho. . . (65 people)
  - 6th Landing (2/20/1977): Joyce Kainoa, Sam Kealoha, Rae M.L. Chang
  - 7th Landing (2/ /1977): Walter Ritte, Jr., Richard Sawyer
  - 8th Landing (3/5/1977): James "Kimo" Mitchell, George Helm, Billy Mitchell
  - 9th Landing (7/17/1977): Alolph Helm, Jeanette Foster, Earl Deleon, Roman Dombriques, Jr., Isaac D. Hall
- 50 On March 5, 1977, George Helm, James Kimo Mitchell, and William Mitchell journeyed to Kaho'olawe in search of two Native Hawaiians who had been on the island for more than a few



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weeks. Helm and Kimo Mitchell were last seen in waters off Kaho'olawe and have never been found.

- 51 *Noa Emmett Aluli, et al., Plaintiffs v. Donald Rumsfeld, Secretary of Defense, et al., Defendants* (Civil Action File No. 76-0380). **Note:** Presidential administrations changed in 1978. Donald Rumsfeld was replaced by Harold Brown as Secretary of Defense.
- 52 *Noa Emmett Aluli, et al., Plaintiffs v. Harold Brown, Secretary of Defense, et al., Defendants* (Civil Action File No. 76-0380). Decision dated September 15, 1977, in the United States District Court for the District of Hawai'i.
- 53 *Noa Emmett Aluli, et al., Plaintiff v. Harold Brown, Secretary of Defense, et al., Defendants* (Civil No. 76-0380). Decision dated December 1, 1980, in the United States District Court for the District of Hawai'i.
- 54 The U.S. Navy has summarized its activities in recent years in its *Environmental Assessment for Navy Activities Conducted at the Kaho'olawe Training Area, Hawaii* (Draft), by Belt Collins & Associates (Honolulu) and dated August 6, 1992. Past activities have been generally described in various EIS and EA publications including: U.S. Department of the Navy. *Final Environmental Impact Statement; Kahoolawe Island Target Complex, Hawaiian Archipelago*, February 1972; U.S. Department of the Navy. *Draft Supplement to the Final Environmental Impact Statement—Kahoolawe Island Target Complex*, 1977; and the U.S. Department of the Navy. *Environmental Impact Statement—Military Use of the Kahoolawe Training Area*, by Environment Impact Study Corp., Honolulu, September 1979. The Protect Kaho'olawe 'Ohana has summarized its activities in testimony presented at hearings conducted by the KICC and in Protect Kaho'olawe Fund. *Environmental Assessment—Kaho'olawe Restoration Project*, June 1991, with addendum and supplement through May 26, 1992.
- 55 The 'awa cup and the shark image are referred to in a letter from the Reverend William Richard, resident missionary at Lahaina, Maui, to Jeremiah Evarts, Corresponding Secretary of the American Board of Commissioners dated March 31, 1827, and filed in the Hawaiian Mission children's Society Library in a series of volumes. *Missionary Letters* (II,754a):

*At the time I wrote you Hoapili the governor of the island (Maui) was on a tour, in which he visited all the villages on the island and in every village held a meeting for the purpose of proclaiming certain rules and regulations and encouraging the people to attend to religious instruction.*

*While he was going around this island, his wife, Hoapiliwahine, visited Tahoolawe and brought away the weather beaten idol which has for a number of years, been had in great veneration and receive sacrifices of some sort or other from every native that passed the island.*

In 1828, Richards again remarks about the image and an "awa cup" from which all his votaries drank to his worship. . . It is made of cocoa nut." (*Missionary Letters*, vol. III, pp. 728-9, Letter #144). Although the image has yet to be located, the 'awa cup was returned to the Bishop Museum in 1895 and then exchanged for a number of Swiss neolithic artifacts in 1903. The 'awa cup remains at the Berne Historical Museum in Berne, Switzerland.

- 56 *Ka Lahui Hawaii*, December 23, 1875, p. 2/c. 2. The spiritual aspect of the King's trip to Kaho'olawe is noted in correspondence between Queen Emma and Peter Kaeo in Alfons L. Korn. *News from Molokai, Honolulu*, 1976, p. 288.
- 57 See Note #29.
- 58 **See:** Hawaii Admission Act of March 18, 1959 (Public Law 86-3, 73 Stat. 4) Section 5(f).
- 59 The Hawaii Revised Conveyance Procedures Act identified the process by which Hawai'i ceded lands are returned once their use is no longer required by the Federal government. **For more information see:** Correspondence from American Law Division, Congressional Research Service, The Library of Congress, Washington, D.C. to the Honorable Daniel K. Akaka, United States Senate dated September 9, 1992, entitled "Transfer of Kahoolawe Island" and from Warren Price, III, Attorney General, State of Hawai'i, to H. Rodger Betts, Executive Director, KICC, dated March 13, 1992, entitled, "Your January 29, 1992, Letter Transmitting a Memorandum Re the Conveyance of Kaho'olawe to the State of Hawaii;" and KICC Special Report by Joel August, Esq. entitled *Comprehensive Legal Memorandum*, Wailuku, October 12, 1992, pp. 51-75.



## Endnotes

- 60 Correspondence from the Honorable C. M. Hite, Acting Governor, Territory of Hawai'i to Major General C. D. Herron, U.S.A., Commanding, Hawaiian Department, Ft. Shafter, Hawaii dated August 15, 1939 in correspondence file, Land Management Division, Department of Land and Natural Resources, State of Hawai'i.
- 61 Two Supplemental Agreements were executed between the Kahoolawe Ranch Company and the United States. The first, dated March 1, 1944, allowed the military to conduct unrestricted activities on the island and dispensed with the requirement of annually renewing the agreement with the ranch. The second agreement, dated October 18, 1944, allowed the United States to cancel the agreement on 30-day notice. Both documents are on file with the Land Management Division, Department of Land and Natural Resources, State of Hawai'i.
- 62 Mattson Sunderland Research and Planning Associates. *Analysis of Public Opinion Regarding the Island of Kaho'olawe*, prepared for the Office of State Planning, State of Hawai'i, January 1992. See also: "People's Choice Awards," *Honolulu Magazine*, February 1992. In correspondence to the KICC, the magazine's editor noted:

*With regards to the questions on Kaho'olawe, readers' responses were almost unanimous. When asked about the Best Thing About Kaho'olawe, the #1 response centered on efforts to save the island. A close second was the assumption that all bombing had stopped and that the island was being returned to the state.*

*The Worst Thing About Kaho'olawe, as voted by the readers, was the fact that the island was ruined by the bombing. The runner-up response was the erosion taking place, tied with the concept that the island is useless and can serve no real purpose (i.e., with regard to tourism or agriculture).*

*I hope this gives you an understanding of how our readers view, Kaho'olawe . . .* (Correspondence from Ed Cassidy, editor and publisher, *Honolulu Magazine*, to Hardy Spoehr, Executive Assistant, KICC, dated December 19, 1991).
- 63 For more information see: KICC Special Report by Joel August, Esq. *Comprehensive Legal Memorandum*, Wailuku, October 12, 1992, pp. 144-160; United States Department of Defense. Report of the Defense Environmental Response Task Force, Washington, D.C., October 1991; and Verner, Liipfert, Bernhard, McPherson and Hand, Chartered. *The Identification and Analysis of Federal Environmental and National Defense Laws and Regulations Regarding the Rehabilitation of the Island of Kaho'olawe*, prepared for the Office of State Planning, State of Hawaii, November 12, 1992.
- 64 Naval Explosive Ordnance Disposal Technology Center. *Range Clearance Technology Assessment (Revision 1) —Final Report*, prepared for the U.S. Army Corps of Engineers, Military Program Directorate, March 1990, p. 2-5. See also: Department of the Army. *Contaminated Area Clearance and Land Use Alternatives*, Engineers' Study Group; Chief of Engineers, January, 1975. The Naval Center, also, has produced a number of materials pertinent to Kaho'olawe. These include: *Range Clearance Technology—Summary Report*, March 1990; *Range Clearance Technology Assessment—Final Report*, NAVEODTECHCEN Technical Report TR-275, January 1986; *Range Clearance—An Economic Model—Final Report*, NAVEODTECHCEN Technical Report TR, May 1985; "Summary Report on the FY 81 and FY 82 Program to Develop Range Clearance Technology Applicable to the Island of Kahoolawe, HI," March 1983; *Study of Search Effectiveness of Surface Clearance Techniques on Kahoolawe Island—Final Report*, NAVEODFAC Technical Report TR-235, November 1980; and *Range Clearance Highlights*, paper presented at the 19th Explosives Safety Seminar sponsored by the Department of Defense Explosives Safety Board, September 1980.
- 65 The first major study of the unexploded ordnance problem on Kaho'olawe was initiated in September 1971, by the Chief of Naval Operations as a result of Congressional legislation proposed by Senator Hiram Fong in 1970 (noted earlier in this report). The resulting report, *Ordnance Clearance Plan*, was submitted to the Chief of Naval Operations in December 1972. In 1974, the U.S. Navy completed a brief summary of the unexploded ordnance on Kaho'olawe (EODGRUONF). Another study was proposed in 1975 entitled: *Proposed Alternatives for the Clearance of Unexploded Ordnance from the Island of Kahoolawe*; A team Project submitted by Kistler, Liebold, Harmon, Ivison and Richard to the University of Southern California Systems Management Center, May 1, 1975. In November



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1975, the Navy initiated a review and update of its initial study. A number of studies were done in conjunction with this study and included an "Ordnance Penetration Study" conducted by Explosive Ordnance Disposal Mobile Unit One in 1976 (8027/Ser. 68). The Final Report prepared by Marinco, Ltd. was released in September 1976, *Study on the Feasibility and Cost of Clearing Kahoolawe Island or Unexploded Ordnance—Final Report*, 102-A, prepared for the Naval Sea Systems Command, Department of the Navy under contract N00024-76-C-6089, September 1976.

- 66 The Consent Decree required that the Navy "remove surface ordnance from approximately 10,000 acres . . ." According to its records, the Navy swept "over 14,000 acres" between the Fall of 1981 and November 1992 (correspondence from Captain M. D. Roth, Jr., U.S. Navy, Assistant Chief of Staff Operations and Plans/Kaho'olawe Project Officer, to Hardy Spoehr, Executive Assistant, KICC, dated December 23, 1992).
- 67 KICC Special Report by Ballena Systems Corporation. *Unexploded Ordnance on Kaho'olawe: Historical Review, Technology Assessment, and Clearance Planning—Final Report*, Alameda, July 1992, pp. 30-40.
- 68 Report prepared by Walter J. Dennison, "Explosive Hazards Associated with the Waters Surrounding Kahoolawe Island," Office of State Planning, State of Hawai'i, October 3, 1992. *See also:* Marinco Ltd., *Study on the Feasibility and Cost of Clearing Kahoolawe Island or Unexploded Ordnance (Final Report)*, prepared for the Naval Sea Systems Command, Department of the Navy, Washington, D.C., September 1976, pp. 57-58.
- 69 U.S. Navy. "COMEODGRUPAC Report on Kahoolawe Island; Underwater Survey," Commander Explosive Ordnance Disposal Group One, Pacific, EODGRUOWE: N3:re, 8027, Serial 496, November 8, 1978, and U.S. Navy. "Hydrologic Reconnaissance of Selected Areas of the Island of Kahoolawe, Hawaii," prepared in cooperation with the U.S. Geological Survey, Pearl Harbor, Honolulu, 1978.

Film footage of the underwater survey work is on file at the U.S. Department of Defense, Motion Media Records Center, Norton Air Force Base, Riverside, CA. A copy is available in

Hawai'i through the Native Hawaiian film production company Na Maka o Ka`Aina, Honolulu.

- 70 A sampling of enacted federal legislation which has identified and benefited Native Hawaiians includes the following.

- Hawaiian Homes Commission Act (July 9, 1921)
- Hawaii National Park Extension Act (June 30, 1938)
- Hawaii Admission Act (March 18, 1958)
- Community Services Act of 1974 (January 4, 1975)
- Comprehensive Employment and Training Act (August 5, 1977)
- Native American Religious Freedoms Act (August 11, 1978)
- Youth Employment Act (October 27, 1978)
- Public Law 96-565, Title III (December 20, 1980)
- Library Services and Construction Act (October 17, 1984)
- Carl D. Perkins Vocational Education Act (October 19, 1984)
- Older Americans Act Amendments of 1987 (November 29, 1987)
- Housing and Community Development Act of 1987 (February 2, 1988)
- Augustus F. Hawkins—Robert T. Stafford Elementary and Secondary School Improvement Amendments (April 28, 1988)
- Veterans' Benefits and Services Act (May 20, 1988)
- Indian Housing Act (June 29, 1988)
- Native Hawaiian Health Care Act (October 31, 1988)
- National Museum of the American Indian Act (November 28, 1989)
- Native American Grave Protection and Repatriation Act (November 16, 1990)

The State of Hawai'i also has recognized its native people as having a special relationship within the state. Article XII of the state Constitution directly addresses this relationship under "Hawaiian Affairs." Numerous state statutes



## Endnotes

- further define this in terms of land use and community development, language, artifacts, housing, burial sites, fishing rights, and access to resources.
- 71 Native Hawaiian gathering rights to natural resources is an evolving field in Hawai'i state law. The subject was first discussed in *Kalipi v. Hawaiian Trust Co.*, 66 Haw. 1, 656 p. 2d 745 (1982) and expanded in *Pele Defense Fund v. Paty*, 73 Haw. 578, 837 p. 2d 1247 (1992). The finding in *Pele Defense Fund v. Paty* was further expanded in a recent Intermediate Court of Appeals decision, *Public Access Shoreline Hawaii and Angel Pilago v. Hawaii County Planning Commission and Nansay Hawaii* (No 15460) made January 28, 1993. See also: Robert T. Iverson, Tom Dye, and Linda Paul. *Native Hawaiian Fishing Rights*, Phases 1 and 2, prepared for the Western Pacific Regional Fishery Management Council, Honolulu, July 1990, and Melody Pilialoha MacKenzie. *Native Hawaiian Rights Handbook*, Honolulu, 1991, pp. 149-208.
  - 72 The 1980 Consent Decree recognized the Protect Kaho'olawe 'Ohana as seeking "to act as stewards of the moku Kaho'olawe." The Governor of Hawai'i in his State of the State Address presented on January 27, 1993 remarked in part: "both the federal and state governments have a rare second chance to do what is right for Kaho'olawe . . . I propose we set aside Kaho'olawe as a cultural reserve, to be healed and used only for those purposes that are consistent with the island's history and well-being. In this endeavor I call upon the Protect Kaho'olawe 'Ohana to continue their role as stewards. . ."
  - 73 This staffing model is based on a proposed National Park Service model for its National Park at Ka-Loko-Honokahau. See: U.S. Department of the Interior. *General Management Plan—Environmental Impact Statement for Ka-Loko-Honokahau National Historic Park (DRAFT)*, National Park Service, June 1992, p. 83.
  - 74 On December 19, 1927, Governor Farrington issued Governor's Executive Order No. 308 which set aside some 24 acres on Kaho'olawe to the U.S. Lighthouse Service for lighthouse purposes. This was followed by President Coolidge's Presidential Proclamation 1827, which repeated the territory's reservation for the Kaho'olawe lighthouse.
  - 75 The Federal Aviation Administration (FAA) manages airspace and promulgates rules and regulations which govern its use.
  - 76 Dorothy B. Barrere. *The Kumuhonua Legends—A Study of Late 19th Century Hawaiian Stories of Creation and Origins*, no. 3, Pacific Anthropological Records, Bishop Museum, Honolulu, 1969, p. 45.
  - 77 Samuel Kamakau. *The Works of the People of Old: Na Hana a ka Po'e Kahiko*, Bishop Museum, Honolulu, 1976, p. 7.81. For more information see: KICC Special Publication by Rowland Reeve. *The Place Names of Kaho'olawe*, Honolulu, December 1992.
  - 78 For more information see: KICC Special Publication by Rowland Reeve. *The Place Names of Kaho'olawe*, Honolulu, December 1992.
  - 79 These sites and features were identified in the most comprehensive archaeological survey ever done of the island conducted between 1976 and 1980. Publications and reference materials from the survey include: Robert J. Hommon. "A Brief Summary of the Archaeological Survey of Kaho'olawe as of August 1977," State Historic Preservation Office, Department of Land and Natural Resources, State of Hawaii, August 1977; Robert J. Hommon. *National Register of Historic Places Multiple Resource Nomination Forms for the Historic Resources of Kaho'olawe*, prepared for the Pacific Division, Naval Facilities Engineering Command, U.S. Navy, Pearl Harbor, Hawaii by Hawaii Marine Research, Inc., Honolulu, 1980; Robert J. Hommon. *Kahoolawe: Final Report of the Archaeological Survey*, prepared for Pacific Division, Naval Facilities Engineering Command, Contract No. N62742-78-C-0061, U.S. Navy, Pearl Harbor, Hawaii by Hawaii Marine Research, Inc., Honolulu, November 1980; Robert T. Hommon and C. F. Streck, Jr. *The Archaeological Investigation of Kaho'olawe Site 109*, prepared for the Pacific Division, Naval Facilities Engineering Command, Contract No. N62742-79-C-0076, U.S. Navy, Pearl Harbor, Hawaii by Hawaii Marine Research, Inc., Honolulu, February 1981; Robert J. Hommon. "Trip Report—Kaho'olawe Site Inspection—March 23-April 1, 1981," prepared for Pacific Division, Naval Facilities Command, Contract No. N62742-79-C-0076, U.S. Navy, Pearl Harbor, Hawai'i, by Science Management, Inc., Honolulu; and Robert J. Hommon.



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*Kahoolawe Archaeological Excavation*—1981, prepared for the Pacific Division, Naval Facilities Engineering Command, U.S. Navy, Pearl Harbor, Hawaii, by Science Management, Inc., Honolulu, May 1983; Hamilton H. Ahlo. "Preliminary Case Report-35 Sites in Danger of Erosion, Kaho'olawe, Hawaii," Hawaii Marine Research, Honolulu, November 1980 William Barrera, Jr. "Kaho'olawe Archaeology: An Overview," *Hawaiian Archaeology*, vol. 1, no. 1, 1984, pp. 3143; Hallett Hammatt. "Paleoarchaeology of Kahoolawe," paper presented at the Symposium on Hawaiian Archaeology, Society of American Archaeology Annual Meeting, Tucson, Arizona, 1978; Earl Neller. "Island of Kahoolawe Site Visit," Hawaii Historic Places Review Board, Honolulu, April 25-28, 1980; Earl Neller. "Erosion of Archaeological Sites on Kahoolawe, Hawaii—A Reconnaissance of Selected Sites," State Historic Preservation Office, Department of Land and Natural Resources, State of Hawai'i, September 1981; Earl Neller. "Kaho'olawe Field Trip Report," State Historic Preservation Office, Department of Land and Natural Resources, State of Hawai'i, January 5-8, 1982; Earl Neller. "Settlement Patterns on Kaho'olawe Island, Hawaii," State Historic Preservation Office, Department of Land and Natural Resources, State of Hawai'i, Honolulu, April 1982; Paul Rosendahl, Alan Haun, Joseph Halbig, Mikk Kaschko, and Melinda Allen. *Kahoolawe Excavations, 1982-3, Data Recovery Project*, prepared for the Pacific Division, Naval Facilities Engineering Command, U.S. Navy, Pearl Harbor, Hawaii by Paul H. Rosendahl, Ph.D., Inc., Hilo, June 1987 (in two volumes); Martha Yent. "Field trip to Kaho'olawe: Review of the Cultural Resources," Historic Sites Office, Division of State Parks, Department of Land and Natural Resources, State of Hawai'i, March 1983.

*For earlier archaeological reports see:* John Stokes. *Kaho'olawe Field Notebooks* (unpublished), Bishop Museum Archives, Honolulu, 1913, and J. Gilbert McAllister. *Archaeology of Kahoolawe*, Bishop Museum Bulletin 115, Honolulu, 1933 (Reprint 1971).

- 80 Historical resources in the Native Hawaiian language include numerous newspapers dating between 1834-1948 and primary resource materials in the Bishop Museum Library and Archives and in the Hawai'i State Archives. *For more information see:*

■ **Newspapers:** Rubellite Kawena Johnson. *Kukini 'Aha 'Iono (Carry on the News)*, Honolulu, 1976; Esther Mookini. *The Hawaiian Newspapers*, Honolulu, 1974; and Nancy Jane Morris. *Ka Loea Kalaiaina: A Study of a Hawaiian Language Newspaper as a Historical Reference Source*, M.A. Thesis, Pacific Islands Studies, University of Hawai'i, Honolulu, December 1975.

■ **Miscellaneous:** Correspondence to Walter F. Dillingham from Benedictus Auhana Akina, Kahoolawe Ranch Manager, between 1901-1904, Walter F. Dillingham File, Bishop Museum Archives, Honolulu.

- 81 *See:* KICC Special Report by Rock Art Associates. *Kaho'olawe Petroglyph Survey and Inventory*, Phoenix, in preparation. The number of known petroglyphs has been doubled by the KICC's study. *See also:* P.K. Kwiatkowski. *Na Ki'i Pohaku, a Hawaiian Petroglyph Primer*, Honolulu, 1991; and Edward Stasack and J. Halley Cox. *Hawaiian Petroglyphs*, Bishop Museum, Honolulu, 1970.
- 82 Upon discovering the pilfering, the Navy undertook a survey of the site and has attempted to repair some of the damage done by vandals. *For more information see:* Michael Graves and C. Kehaunani Abad. *Kamohio Shrine Survey*, Honolulu, in preparation, and KICC consultant reports from Rowland Reeve. "Kamohio Shrine Site," Honolulu, 1992, and "Kaho'olawe Burial Bundle," Honolulu, 1992.
- 82 In addition to the State of Hawai'i's 1976-80 survey, the following research has been conducted on Kaho'olawe burials: William Barrera, Jr., and Christina Batista. "Excavation of a Burial at Site 473, Kaho'olawe," Hawaii Marine Research, Honolulu, December 1979; Christine Batista. "A Hawaiian Firepit Burial from the Island of Kaho'olawe," Department of Anthropology, University of Hawaii, Hawai'i, August 1981; and Wendell Kam. "Report on the Human Skeletal Remains Excavated on the Island of Kaho'olawe," Historic Sites Section, Department of Land and Natural Resources, State of Hawai'i, November 14, 1985.
- 84 *For more information see:* David J. Harris. "Respect for the Living and Respect for the Dead: Return of Indian and Other Native American Burial Remains," *Washington Univer-*



sity *Journal of Urban and Contemporary Law*, vol. 39, Spring, 1991; John F. Peterson II. "Dance of the Dead: A Legal Tango for Control of Native American Skeletal Remains," *American Indian Law Review*, vol. XV, no. 1, Norman, 1990; June C.B. Raines. "One is Missing: Native American Graves Protection and Repatriation Act: An Overview and Analysis," *American Indian Law Review*, vol. XVII, No. 2, Norman, 1992; and Rennard Strickland. "Implementing the National Policy of Understanding, Preserving, and Safeguarding the Heritage of Indian Peoples and Native Hawaiians: Human Rights, Sacred Objects, and Cultural Patrimony," *Arizona State Law Journal*, vol. 24, no. 175, Phoenix, 1992, pp. 175-191.

- 85 Stokes kept meticulous notes. His notes have been transcribed and are now preserved in the Bishop Museum Archives in Honolulu.
- 86 J. Gilbert McAllister. *Archaeology of Kahoolawe*, Bishop Museum Bulletin 115, Honolulu, 1993 (Reprint 1971).
- 87 *For more information on Kaho`olawe's past and present environmental features see:*
  - **General Environment:** KICC Special Report by The Nature Conservancy of Hawaii. *Biological Database & Reconnaissance Survey of Kaho`olawe Island*, Honolulu, October, 1992; KICC Special Report by International Archaeological Research Institute, Inc. *Paleobotanical Investigations, Kaho`olawe Island*, Hawai`i, Honolulu, 1992; R. Lebaron and R. Walker. "Kahoolawe, A Badly Abused Island; How to Rehabilitate It," Division of Forestry, Department of Land and Natural Resources, State of Hawai`i, 1970; R. Scudder. *Kahoolawe, A Deteriorating Island Ecosystem*, Senior Honors Thesis, Department of Geography, University of Hawai`i, Honolulu, May 1972; and Matthew Spriggs. "Preceded by Forest: Changing Interpretations of Landscape Change on Kaho`olawe," *Asian Perspectives*, vol. XXX(1), Honolulu, 1991.
  - **Flora:** E.H. Bryan. "Summary of Plants Found on Kaho`olawe (Forbes-1913 and Bryan 1931)," "Plants Found on Kahoolawe by Bryan," "Accounts of the Plants Growing on Kahoolawe Island," Bishop Museum Archives, PSIC, Grp 2, Box 2.1; Carolyn Corn, Winona Char, Gar Clarke, Linda

Cuddihy. "Kaho`olawe Botanical Survey," Division of Forestry, Department of Land and Natural Resources, State of Hawai`i, October 1980; C.N. Forbes. "Notes on the Flora of Kahoolawe and Molokini, and an Enumeration of Niihau Plants," Bishop Museum Occasional Papers 4 (3), Honolulu, 1913, pp. 1-31; Sheila Myhre. "Kahoolawe," *Newsletter*, Hawaiian Botanical Society, October 1970; and Charles H. Lamoureux. "Plants Recorded From Kaho`olawe," *Newsletter*, Hawaiian Botanical Society, June 1970; W.H.C. Wong. "More Plants from Kahoolawe," *Newsletter*, Hawaiian Botanical Society, June 1972; W.H.C. Wong. "The Latest from Kahoolawe," *Newsletter*, Hawaiian Botanical Society, October 1972; H. K. Yanamura. "Flora Observed on Kahoolawe June 1970 and April 1970," *Newsletter*, Hawaiian Botanical Society, June 1971; and T.C. Zschokke. "The Forests of Kaho`olawe," *The Extension Letter*, vol. 13, no. 1, University of Hawaii Agricultural Extension Service, Honolulu, 1932;

- **Fauna:** E.H. Bryan. "Birdlife," "Animal Life and Vegetation," Bishop Museum Archives, PSIC, Grp 2, Box 2.1.
- **Insects:** E.H. Bryan. "Insects on Kahoolawe," Bishop Museum Archives, PSIC, Grp 1, Box 18.
- **Mollusks:** Bishop Museum Collection, Malacology Department, Honolulu; Henry Pilsbry. "Marine Mollusks of Hawaii I-VII," *Academy of Natural Sciences of Philadelphia—Proceedings*, June 1917, pp.2-7-230, Oct-Nov-Dec 1917, pp. 309-333.
- **Fish/Marine Resources:** J.N. Cobb. "The Commercial Fisheries of the Hawaiian Islands (Section on Kaho`olawe)," Part III, *Bulletin of the U.S. Fish Commission*, vol. XXIII, Washington, D.C., 1905; A.D. Kahaulelio. "Fishing Lore," *Ka Nupepa Kuokoa*, 1902 (manuscript in the Bishop Museum Library, Honolulu; K.E. Kawamoto, D.A. Bulseco, and T.Y. Kobayashi. *The Effects of Siltation Upon the Nearshore Marine Environment of Kahoolawe*, NSF-SOS Program, Grant SPI-8004745, May 1981; State of Hawaii. *Kahoolawe Fish Study*, Division of Fish and Game, Department of Land and Natural Resources, July 30-



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August 2, 1972; State of Hawaii. *Kaho'olawe Island Nearshore Marine Resource Inventory (Draft)*, Division of Aquatic Resources, Department of Land and Natural Resources, December 1992; and United States Department of Commerce. *Kahoolawe National Marine Sanctuary Feasibility Study*, National Oceanic and Atmospheric Administration, National Ocean Service, Office of Ocean and Coastal Resource Management, Sanctuaries and Reserves Division, December 1991. Protect Kaho'olawe 'Ohana. *Contemporary Use of the Waters Surrounding Kaho'olawe, Hawai'i*, in preparation.

- **Coastal Waters:** Correspondence to the Rev. William Richards, Lahaina, from Capt. Charles Wilkes providing his observations about sailing hazards around Kealaikahiki, March 21, 1841, and Correspondence to Capt. Charles Wilkes from Kamehameha III indicating sailing instructions around Kealaikahiki, April 2, 1841 (both items in the Hawai'i State Archives); and U.S. Coast and Geodetic Surveys on or near Kaho'olawe:

Year	Field Director	Ship
1900	Perkins	Pathfinder
1904/05	Pratt	Patterson
1932	Swanson	Pioneer
1961/62	Porter/Wardwell	Surveyor
1962	Wardwell	Pathfinder
1963	Seaborg	
1965	Woodcock	Pathfinder
1966	Short	Pathfinder
1969	Newson	Pathfinder

Field project reports prior to 1935 are filed in the National Archives, Scientific, Economic & Natural Resources Branch, Washington, D.C. Other materials are still on file with the U.S. Department of Commerce, NOAA, National Ocean Service, National Geodetic Survey, Horizontal Network Branch, Washington, D.C.

- **Ground Water:** J. Kauahikaua. *An Assessment of the Ground-Water Resources of Kaho'olawe, Hawai'i*, U.S. Geological Survey Open File Report 89-648, 1989; Harold T. Stearns. "Geology and Ground-Water Resources of the Islands of Lanai and Kahoolawe," *Hawaii Division of Hydrology*

*Bulletin 6*, U.S. Geological Survey, Honolulu, 1940; and Kiyoshi J. Takasaki. *Water Resources of the Island of Kahoolawe, Hawaii: Preliminary Findings*, U.S. Geological Survey, Water Resources Investigations Report 89-4209, 1991.

- 88 **For a discussion on finding the new plant, see:** Steve Perlman. "Kahoolawe—the Eighth Hawaiian Island—New Genus Found," *The Bulletin*, National Tropical Botanical Garden, vol. XXII, no. 2, Spring 1992.
- 89 **Watershed Management Systems.** *Kaho'olawe Water Resources Study—Strategies for the Management of Land & Water Resources, Kaho'olawe Island (Draft)*, Report R-82, prepared for the Protect Kaho'olawe 'Ohana/Fund for the Division of Water Resource Management, Department of Land and Natural Resources, State of Hawai'i, Honolulu, October 1990, p. 143. **For more information on soil characteristics and erosion control, see:** KICC Special Report by Tom Giambelluca and Keith Loague. *The Spatial Variability of Near-Surface Soil Hydraulic Properties for Kaho'olawe: A Preliminary Investigation*, Berkeley, January, 1993; correspondence from Harry H. Sato, Assist. State Soil Scientist, to Russell LeBarron, State Division of Forestry, July 8, 1970, identifying the different Kaho'olawe soils and their respective properties (On file, Division of Forestry and Wildlife, Department of Land and Natural Resources, State of Hawai'i); Roy J. Shlemon. *Soil-Geomorphic Reconnaissance of the Lua Makika Area, Island of Kahoolawe, Hawaii*, prepared for the Pacific Division, Naval Facilities Engineering Command, U.S. Navy, Pearl Harbor, Hawaii, September 1980; United States Department of Agriculture. *Kaho'olawe Island Erosion Control Structure Inventory and Evaluation*, prepared by the Soil Conservation Service, Interagency Service Agreement No. A-9251-125, Honolulu, January 27, 1992; and Steven D. Warren and Robert E. Riggins. *Rehabilitation of Kaho'olawe*, prepared for the Commander Naval Base, Pearl Harbor and Pacific Division, Naval Facilities Engineering Command by U.S. Army Construction Engineering Research Laboratory, Environmental Division, Champaign, Illinois:

- 1988—Rehabilitation Proposal
- 1989—First Status Report
- 1991—Second Status Report



Early state activities are documented in the files of the Forestry and Wildlife Division, Department of Land and Natural Resources, State of Hawai'i. Some documents of interest include: Memorandum to Chairman Sunao Kido from Tom K. Tagawa, State Forester. "Inspection of Kahoolawe, July 25-26, 1969," dated August 12, 1969; Memorandum to the Honorable Sunao Kido, Chairman and Member, Board of Land and Natural Resources from Staff. "Inspection of Kahoolawe Relating to a Soil Conservation Program," dated October 14, 1969. Joint federal-state replanting efforts occurred between 1971 and 1974: Russell K. LeBarron, Division of Forestry, Department of Land and Natural Resources, State of Hawai'i, "Preliminary Plan for Testing Adaptation of Several Plant Species on the Island of Kahoolawe," 1971; Craig Whitesell, Research Forester, Forest Service, U.S. Department of Agriculture, *Study Plan and Establishment Report for Vegetation Trials for Rehabilitating Kahoolawe Island, Hawaii*, U.S. Department of Agriculture, Honolulu, February 11, 1971.

- *First Progress Report* (May 24, 1971)
- *Second Progress Report* (November 9, 1971)
- *Third Progress Report* (with Wesley Wong, June 5, 1972)
- *Fourth Progress Report* (with Wesley Wong, November 24, 1972)
- *Establishment Report No. 2 for Vegetation Trials for Rehabilitating Kahoolawe Island, Hawaii* (with Wesley Wong, February 28, 1973)
- *Fifth Progress Report* (with Wesley Wong, April 29, 1974)
- *Sixth Progress Report* (with Wesley Wong, November 26, 1974)

The Protect Kaho'olawe 'Ohana's current Restoration Project is outlined in its *Environmental Assessment* dated June 1991 with Addendum and Supplement through May 26, 1992.

- <sup>90</sup> *Hawaiian Gazette*, 8/17/1881. **For more information see:** Territorial Board of Agriculture and Forestry. "Public Hearing Minutes Re the Creation of the Kaho'olawe Forest Reserve . . ." Held by the Governor, Saturday, August 20, 1910; Territorial Board of Agriculture and Forestry. "Hearing of Statement of Mr. Eben P.

Low on the Matter of Occupation and Use of the Island of Kaho'olawe," December 2, 1915; Board of Agriculture and Forestry. "Public Hearing Minutes Re: Withdrawal of the Island of Kaho'olawe from the Forest Reserve . . ." Held by the Governor, April 4, 1918 (Government Records File, Hawai'i State Archives). C.S. Judd. "Aeolian Erosion in Hawaii," *American Forestry*, vol. 23, no. 280, April 1917, pp. 239-240; and "Hundreds See Wind Literally Blowing Kaho'olawe into Sea," *The Maui News*, May 11, 1927, p. 1/c. 2.

- <sup>91</sup> Harold T. Stearns. "Geology and Ground-Water Resources of the Islands of Lanai and Kahoolawe," *Hawaii Division of Hydrology Bulletin* 6, U.S. Geological Survey, Honolulu, 1940, p. 125.
- <sup>92</sup> Rainfall for Kaho'olawe has not been consistently recorded. Presently, rainfall measurements are recorded by the Weather Bureau at a location on the island's interior near its summit. Historical records were collected by ranch personnel beginning in 1904 but are sporadic. Little or no rainfall data exists for the island between 1920 and 1971. **For early rainfall records see:** E.H. Bryan Collection in the Bishop Museum Archives, Honolulu—"Kaho'olawe Vegetation" Binder.
- <sup>93</sup> The legend of Kalaepuni at Kanapou Bay as told by Fornander (Abraham Fornander. *Collection of Hawaiian Antiquities and Folklore*, Bishop Museum, Honolulu, 1916-19, pp. 198-205) and Harold Stearns. "Geology and Ground Water Resources of the Islands of Lanai and Kahoolawe," *Division of Hydrology Bulletin* 6, USGS, Honolulu, 1940, pp. 130-131.
- <sup>94</sup> Dennis Kawaharada (ed.). *Hawaiian Fishing Legends*, Honolulu, 1992, and Moses K. Nakuina (ed.). *Moolelo Hawaii o Pakaa ame Ku-a-Pakaa (The Wind Gourd of La'amaomao)*, Honolulu, 1990.
- <sup>95</sup> A.D. Kahaulelio. "Fishing Lore," *Ka Nupepa Kuokoa*, 13 installments, Honolulu, 1902 (manuscript in the Bishop Museum Library, Honolulu). **For more information see:** KICC Special Report. *Traditional Use of the Waters Surrounding Kaho'olawe*, Wailuku, in preparation; and Noa Emmett Aluli and Davianna Pomaikai McGregor. "Moe Ke Kai Mai Ke Ola; From the Ocean comes Life: Hawaiian Customs, Uses, and Practices on Kaho'olawe relating to the Sur-



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- rounding Ocean," *Hawaiian Journal of History*, vol. 26, 1992, pp. 231-257.
- 96 The Hawaiian Islands Humpback Whale National Marine Sanctuary is identified in the Oceans Act of 1992 (P.L. 104-587) which was passed by the U.S. Congress on November 4, 1992. The waters surrounding Kaho'olawe, a distance of three nautical miles from the high-water mark, have been excluded from the sanctuary until issues involving unexploded ordnance in these waters can be resolved.
  - 97 KICC Special Report by Ballena Systems Corporation. *Unexploded Ordnance on Kaho'olawe: Historical Review, Technology Assessment, and Clearance Planning*, Alameda, July 1992, pp. 141-142.
  - 98 A number of plans have been prepared for Kaho'olawe over the years. Some of these have been directed at specific topics such as culture, water resources, or land use. These include:
    - **Culture:** KICC Special Report by Michael W. Graves and C. Kehaunani Abad. *Preservation of Historical Resources on Kaho'olawe: Responsibilities, Natural and Cultural Impacts, and Priorities*, Honolulu, January 1993; Hamilton Ahlo. *Kaho'olawe: A Cultural Resources Management Plan*, prepared for Pacific Division, Naval Facilities Engineering Command, Contract No. N62742-78-C-0061, U.S. Navy, Pearl Harbor, Honolulu, August 10, 1981; Dennis T. P. Keene. *Kaho'olawe Island, Hawaii Ethnic Significance Overview (Draft)*, prepared for Pacific Division, Naval Facilities Engineering Command, Contract No. N62742-84-C-0076, U.S. Navy, Pearl Harbor, Honolulu, August 1985 and; Energy Services Corp. (ERCE). *The Cultural Resource Management Plan for Kaho'olawe Archaeological District (Draft)*, U.S. Navy, Pearl Harbor, Hawaii, February 19, 1991.
    - **Water Resources:** County of Maui, Planning Department, and Department of Water Supply and State of Hawaii, Department of Land and Natural Resources. *Maui County Water Use and Development Plan*, Honolulu, March 1990, and Watershed Management Systems. *Kaho'olawe Water Resources Study*, prepared for the Protect Kaho'olawe 'Ohana and the Division of Water Resource Management, Department of Land and Natural Resources, State of Hawai'i, October 1990.
    - **Land Use:** County of Maui, *Kahoolawe Community Plan*, Hawaii, June 1982 (presently under revision) and State of Hawai'i. "Long Range Use Plan for the Island of Kaho'olawe (Draft)," Office of State Planning, Honolulu, November 1992.
  - 99 Many sinkings and shipwrecks have been recorded around Kaho'olawe since the early 1800s. The most celebrated shipwreck was that of John Jacob Astor's ship *Lark* in 1813. Known shipwrecks are as follows.
    - *Marshall* (early 1800s)—John Papa Ii. *Fragments of Hawaiian History*, Honolulu, 1973, p. 128, and Richard Pierce. *Russia's Hawaiian Adventure, 1815-1817*, Berkeley, 1965, pp. 23, 165-166, 206-207.
    - *Unknown* (1809)—Samuel Kamakau. *Ruling Chiefs of Hawaii*, Honolulu, 1961, p. 207.
    - *Lark* (1813)—Peter Corney. *Early Voyages in the North Pacific: 1813-1818*, Fairfield, 1965, pp. 101-102, and Washington Irving. *Astoria; or Anecdotes of an Enterprise Beyond the Rocky Mountains*, Norman, 1964, pp. 431-432, 476-480.
    - *Keola* (1840)—J.J. Jarvis. *Scenes and Scenery in the Sandwich Islands and a Trip through Central America*, Boston, 1844, pp. 280-282.
    - *Leopard/Greyhound* (1841)—Charles Wilkes. *Narrative of the U.S. Exploring Expedition*, Philadelphia, 1844, pp. 260-262.
    - *Unknown* (1848)—A.D. Kahaulelio. "Fishing Lore," manuscript in Bishop Museum Library, Honolulu, June 27, 1902, pp. 100-103.
    - *Unknown* (1850)—Edward Perkins. *Na Motu; or Reef Roving in the South Pacific*, New York, 1854, pp. 158-168.
    - *Marilda* (1870)—Thomas Thrum. *Hawaiian Annual*, Honolulu, 1883, p. 41.
    - *Olga* (1906)—*Pacific Commercial Advertiser*, May 17, 1906, p. 10/c. 3; C.S. Judd. "Kahoolawe," *Hawaiian Almanac and Annual for 1917*, Honolulu, 1916, p. 123; and *Honolulu Advertiser*, August 28, 1910, p. 1/c. 4.
    - *Unknown* (1916)—*Maui News*, January 7, 1916, p. 6/c. 2.
    - *Unknown* (1927)—*Maui News*, March 26, 1927, p. 8/c. 3.



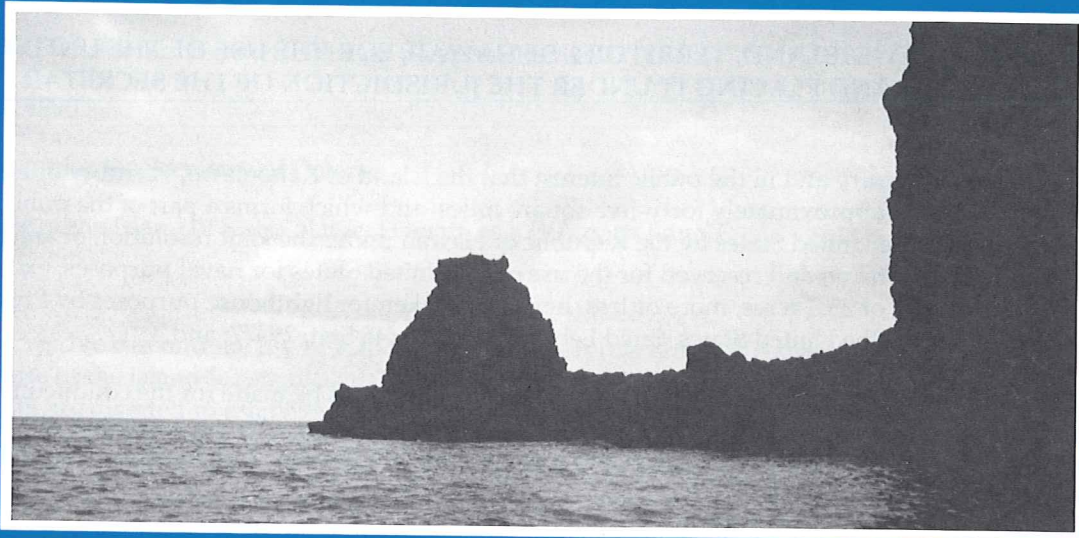
## Endnotes

- *Kahoolawe Maru* (1937)—Inez Ashdown papers.
- Unknown (1942)—*Honolulu Advertiser*, May 11, 1942, p.1/c. 7.
- LCT (1944)—Robert Schmitt. "Catastrophic Mortality in Hawaii," *Hawaiian Journal of History*, vol. 3, 1969, pp. 70-75.

<sup>100</sup> From August 21-22, 1992, Kaho`olawe was the site of a rededication ceremony for the island and Native Hawaiian culture and its values. Hawai'i's Governor, members of its Congressional delegation and leaders from throughout the state took part in the two-day event.



# APPENDIXES



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*The cliffs of Kaho'olawe*  
(Photo courtesy Rowland Reeve)



## Restoring a Cultural Treasure

### Appendix 1. Executive Order No. 10436

#### RESERVING KAHOO LAWE ISLAND, TERRITORY OF HAWAII, FOR THE USE OF THE UNITED STATES FOR NAVAL PURPOSES AND PLACING IT UNDER THE JURISDICTION OF THE SECRETARY OF THE NAVY

WHEREAS it appears necessary and in the public interest that the Island of Kahoolawe, Territory of Hawaii, which comprises an area of approximately forty-five square miles, and which forms a part of the public lands ceded and transferred to the United States by the Republic of Hawaii under the joint resolution of annexation of July 7, 1898, 30 Stat. 750, be taken and reserved for the use of the United States for naval purposes, except that portion comprising an area of 23.3 acres, more or less, heretofore taken for lighthouse purposes by Proclamation No. 1527 of the President of the United States dated February 3, 1928 (45 Stat. 29377; and

WHEREAS it is deemed desirable and in the public interest that provisions be made for the conducting of a program of soil conservation on the island while the reservation made hereby is in force, and that the area within such reservation be restored to a condition reasonably safe for human habitation when it is no longer needed for naval purposes:

NOW, THEREFORE, by virtue of the authority vested in me by section 91 of the act of April 30, 1900, 31 Stat. 159, as amended by section 7 of the act of May 27, 1910, 36 Stat. 447, it is ordered as follows:

1. The Island of Kahoolawe, Territory of Hawaii, except that portion taken by the United States for lighthouse purposes by Proclamation No. 1827 of February 3, 1928, is hereby taken and reserved for the use of the United States for naval purposes, and is placed under the jurisdiction of the Secretary of the Navy.
2. The Secretary of the Navy shall, within a reasonable period following the date of this order, eradicate from the island all cloven-hooved animals, or shall within such period and at all times thereafter while the area hereby reserved or any portion thereof is under his jurisdiction take such steps as may be necessary to assure that the number of such animals on the island at any given time shall not exceed two hundred.
3. The Territory of Hawaii shall have the right, at its expense and risk, at reasonable intervals to enter and inspect the island to ascertain the extent of forest cover, erosion, and animal life thereon, and to sow or plant suitable grasses and plants under a program of soil conservation: *Provided*, that such entrance and inspection shall not interfere unreasonably with activities of the Department of the Navy or of the United States Coast Guard.
4. When there is no longer a need for the use of the area hereby reserved, or any portion thereof, for naval purposes of the United States, the Department of the Navy shall so notify the Territory of Hawaii, and shall, upon seasonable request of the Territory, render such area, or such portion thereof, reasonably safe for human habitation, without cost to the Territory.

DWIGHT D. EISENHOWER

The White House  
February 20, 1953



### Appendix 2. Presidential Memorandum

Memorandum on the Kaho`olawe, Hawaii, Weapons Range

October 22, 1990

Memorandum for the Secretary of Defense

Subject: Use of the Island of Kaho`olawe, Hawaii, as a Weapons Range

You are directed to discontinue use of Kaho`olawe as a weapons range effective immediately. This directive extends to use of the island for small arms, artillery, naval gunfire support, and aerial ordnance training. In addition, you are directed to establish a joint Department of Defense-State of Hawaii commission to examine the future status of Kaho`olawe and related issues.

George Bush



## Appendix 3. Department of Defense Appropriations Act, 1991 (Public Law 101-511)

### Section 8118

SEC. 8188. Notwithstanding any other provision of law, of the funds made available by this Act to the Department of the Navy, \$1,500,000, to remain available until September 30, 1992, shall be available only for the expenses of the Kahoolawe Island Commission which shall be established under the terms and conditions of S. 3088 as introduced in the Senate on September 10, 1990: *Provided*, That the Secretary of the Navy shall provide the Commission such assistance and facilities as may be necessary to carry out its proceedings.

### Section 8119

SEC. 8119. None of the funds made available by this Act shall be available for any Military Department of the United States to conduct bombing training, gunnery training, or similar munitions delivery training on the parcel of land known as Kahoolawe Island, Hawaii.



### Appendix 4. Senate Bill 3088

To establish a commission to study and recommend terms and conditions for returning Kahoolawe Island, Hawaii, from the United States to the State of Hawaii, to prohibit the use of the land as a bombing range, to provide a study of a potential marine sanctuary in the vicinity of the land, to limit improvements to the land during the period of the study, and for other purposes.

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#### IN THE SENATE OF THE UNITED STATES

September 20 (Legislative Day, September 10), 1990

MR. AKAKA (for himself and MR. INOUE) introduced the following bill; which was read twice and referred to the Committee on Armed Services

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#### A BILL

To establish a commission to study and recommend terms and conditions for returning Kahoolawe Island, Hawaii, from the United States to the State of Hawaii, to prohibit the use of the land as a bombing range, to provide a study of a potential marine sanctuary in the vicinity of the land, to limit improvements to the land during the period of the study, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### SECTION 1. ESTABLISHMENT OF COMMISSION TO STUDY LAND CONVEYANCE OF KAHOOLAWA ISLAND, HAWAII.

(a) ESTABLISHMENT.—There is established a commission to be known as the “Kahoolawe Island Conveyance Commission” (hereafter referred to in this Act as the “Commission”).

(b) Members.—(1) The Commission shall consist of five members appointed as follows:

(A) Two to be appointed by the Secretary of the Navy.

(B) Two to be appointed by the Governor of the State of Hawaii.

(C) One to be appointed by the Administrator of the Office of Hawaiian Affairs.

(2) Members shall be appointed for the life of the Commission. Any vacancy occurring in the membership of the Commission shall not affect the powers of the Commission and shall be filled in the same manner in which the original appointment was made.

(c) CHAIRMAN; MEETINGS.—(1) The Commission shall elect a Chairman from among its members.

(2) The Commission shall convene its first meeting not later than 30 days after the date of the enactment of this Act. Thereafter, the Commission shall meet at the direction of the Chairman or at the call of a majority of its members.

(d) COMPENSATION.—A member of the Commission may not be paid compensation for service performed as a member of the Commission. However, members of the Commission shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies of the Federal Government under subchapter I of chapter 57 of title 5, United States Code, while away from their homes or regular places of business in the performance of services for the Commission.

(e) DUTIES.—(1) The Commission shall conduct a study to recommend the terms and conditions for the conveyance of a parcel of land consisting of approximately 28,766 acres and known as Kahoolawe Island, Hawaii, by the United States to the State of Hawaii.

## Restoring a Cultural Treasure

(2) In carrying out the study referred to in this subsection the Commission shall have the following duties:

(A) To identify any portions of the land of Kahoolawe Island that are suitable for restoration to the condition reasonably safe for human habitation, including lands that are suitable for use by the State of Hawaii for—

(i) parks (including educational and recreational purposes);

(ii) the study and preservation of archeological sites and remains; and

(iii) the preservation of historical structures, sites, and remains;

(B) To identify any additional portions of such land that are suitable for restoration to a condition less than reasonably safe for human habitation, including lands that are suitable for—

(i) soil conservation and plant reforestation purposes; and

(ii) removal or destruction of non-native plants and animals.

(C) To estimate the total cost of the restoration of the lands identified pursuant to subparagraphs (A) and (B).

(D) To identify any fences necessary to enclose the lands identified pursuant to subparagraphs (A) and (B).

(E) To estimate the total cost of constructing and maintaining the fences identified pursuant to subparagraphs (A) and (B).

(F) To evaluate the public and private entity best suited to perform the activities referred to in clauses (i) and (ii) of subparagraph (B).

(G) To estimate the total cost of performing the activities referred to in clauses (i) and (ii) of subparagraph (B).

(3) For the purposes of this section, restoration of a portion of land to a condition reasonably safe for human habitation includes, at a minimum, the removal or rendering harmless to human activity of all hazardous or explosive ordinance located on or within such portion.

(f) REPORTS.—(1) Not later than July 31, 1991, the Commission shall submit to the Congress an interim report detailing its activities and preliminary findings and recommendations relating to the study referred to in subsection (e).

(2) Not later than two years after the date of the first meeting of the Commission, the Commission shall submit to the Congress a final report on the results of the study referred to in subsection (e), together with such comments and recommendations as the Commission considers appropriate.

(g) Termination.—The Commission shall expire 30 days after the date on which the final report referred to in subsection (f)(2) is submitted to the Congress.

### SEC. 2. PROHIBITION ON USE OF LAND FOR MUNITIONS DELIVERY TRAINING.

(a) PROHIBITION ON USE OF LAND FOR WEAPONS DELIVERY TRAINING.—The land subject to the study referred to in section 1 of this Act may not be used for bombing training, gunnery training, or similar munitions delivery training by—

(1) any military department of the United States;

(2) the United States Coast Guard; or

(3) any military department, agency, or other entity of any foreign government by or with the permission of the United States.

(b) EFFECTIVE DATE.—The prohibition set out in subsection (a) shall be effective on the date of the enactment of this Act.

(c) DURATION OF PROHIBITION.—The prohibition set out in subsection (a) shall terminate 120 days after the date on which the final report referred to in subsection (f)(2) of section 1 is submitted to the Congress.

### SEC. 3. MARINE SANCTUARY STUDY.

(a) SANCTUARY STUDY.—The Secretary of Commerce shall carry out a study to determine the desirability and feasibility of establishing a national marine sanctuary in the marine environment adjacent to Kahoolawe Island. In conducting the study, the Secretary shall give special consideration



## Appendixes

to the effects such a sanctuary would have on the population of humpback whales that inhabit that marine environment.

(b) REPORT.—No later than one year after the date of the enactment of this Act, the Secretary of Commerce shall submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives on the results of the study referred to in subsection (a), together with such comments and recommendations as the Secretary considers appropriate.

### SEC. 4. LIMITATION ON IMPROVEMENTS TO KAHOOLAWA ISLAND.

No improvements may be made to Kahoolawe Island, Hawaii, during the period beginning on the date of the enactment of this Act and ending on the

date of the termination of the Commission referred to in section 1(g) except as may be approved by the Secretary of the Navy or provided in the Consent Decree and Order in *Aluli v. Brown*, No. 76-0380 (D. Haw. entered December 1, 1980)

### SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

There is authorized to be appropriated funds necessary to carry out the provisions of this Act, of which not more than \$1,500,000 shall be authorized to carry out the study referred to in section 1.

## Appendix 5. Department of Defense Appropriations Act, 1993 (Public Law 102-396)

### Section 9062 A

SEC. 9062A. Notwithstanding any other provision of law, of the funds made available by this Act to the Department of the Navy, \$500,000, to remain available until September 30, 1993, shall be available only for the expenses of the Kahoolawe Island Commission which is hereby authorized to delay until March 31, 1993, the submission of its final report: *Provided*, That the Secretary of the Navy shall provide the Commission such assistance and facilities as may be necessary to carry out its proceedings.

### Section 9078 A

SEC 9078A. None of the funds made available by this Act shall be available for any Military Department of the United States to conduct bombing training, gunnery training, or similar munitions delivery training on the parcel of land known as Kahoolawe Island, Hawaii.



## Appendix 6. Kaho'olawe Ownership and Leases

Date	Ownership	Lessee/Use	Sublease/Use
Pre-1810	Trusteeship	District Ali'i	
1810-48	Trusteeship	Ali'i Nui-Kamehameha I,II,III	
1848	Kingdom of Hawai'i	Government Land	
4/1/1858 (Terminated 1/1/1863)	Kingdom of Hawai'i	G.L. 47A(20 yrs @ \$505/yr)—Issued to: Elisha H. Allen & Robert C. Wyllie (Sheep Ranching); Shepherd—Hillebrand (1859) Animals on the island: • 2,075 sheep (1859) • Wild goats & hogs (1859)	
3/1864	Kingdom of Hawai'i	G.L. 115 (50 yrs @ \$250/yr)—Issued to: Elisha H. Allen & C.G. Hopkins (Sheep Ranching); Foreman: ? Lewis Animals on the island: • 20,000 sheep (1875)	
3/22/1880	Kingdom of Hawai'i	G.L. 115 assigned to: W.H. Cummins & A.D.Courtney (Sheep Ranching—Kahoolawe Stock Company; Manager: W.H. Daniels (1884) Animals on the island: • 2,000 goats (1881) • 1,000 sheep (1881) • 9,000 goats (1884) • 2,000 sheep (1884) • 200 cattle (1884) • 40 horses (1884)	
1886		G.L. 115 assigned to: W.H. Cummins & W.H. Daniels (Sheep Ranching)	
4/27/1887	Kingdom of Hawai'i	G.L. 115 assigned to: Randall Von Tempsky, C.S. Kynnersley & J. R.S. Kynnersley (Sheep Ranching—Kahoolawe Ranch Company); Managers: Robert Wallace (1888); Thomas W. Gay (1889, 1892); Alfred Deverill (1894); Thomas W. Gay (18819, 1892, 1895)) Animals on the island: • 1,000 sheep (1888) • 800 cattle (1888) • 100 horses (1888) • 12,000 sheep (1890) • 900 cattle (1890)	



## Restoring a Cultural Treasure

Date	Ownership	Lessee/Use	Sublease/Use
1/16/1893	Provisional Government of Hawai'i		
7/4/1894	Republic of Hawai'i		
8/12/1898	United States of America (Ceded by Newlands Resolution)		
4/28/1899	United States of America	G.L. 115 assigned to: Benjamin F. Dillingham (Sheep Ranching); Manager: Benedictus Auhana Akina (1899)	
12/21/1903	United States of America	G.L. 115 assigned to: Christian C. Conradt (Sheep Ranching); Foreman with family: Hans Mortensen (1903-05) Animals on the island: <ul style="list-style-type: none"> <li>• 5,000 sheep (1903-04)</li> <li>• 60 cattle (1904)</li> <li>• ? horses (1904)</li> </ul>	
12/28/1906	United States of America	G.L. 115 assigned to: Eben Low (Sheep Ranching); Foreman: Benedictus Auhana Akina; Maikai Keliilike (1910) Animals on the island: <ul style="list-style-type: none"> <li>• 5,000 goats (1909)</li> <li>• 3,200 sheep (1909)</li> <li>• 40 cattle (1909)</li> <li>• 40 horses (1909)</li> </ul>	
8/25/1910	United States of America	Territorial Governor W.F. Frear designates Kaho'olawe a Forest Reserve under the Board of Agriculture and Forestry; Island Managers: <ul style="list-style-type: none"> <li>• R.S. Hosmer—Forester (1910)</li> <li>• C.S. Judd—Forester (1915-18)</li> <li>• Eben Low—former lessee, with Jack Aina—"unofficial ranger" of Kaho'olawe</li> </ul>	
4/20/1918	United States of America	Territorial Governor Lucius Pinkham withdraws Kaho'olawe from "Forest Reserve" Status	
12/23/1918	United States of America	G.L. 1049 issued to: Angus MacPhee (Cattle Ranching—Kahoolawe Ranch Company (KRC)) Foreman: Jack Aina (1918-22)	
7/11/1919	United States of America		KRC sublease of to: Kahoolawe Honey Company: President—Rufus W. Robinson; Vice President—James L. Coke; Secretary—Lee St. John Gilbert; Treasurer—O. St. John Gilbert; Auditor—A.E. Cooley



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Date	Ownership	Lessee/Use	Sublease/Use
6/8/1920	United States of America	G.L. 1049 assigned to: Angus MacPhee and Harry Baldwin (Cattle Ranching, Kahoolawe Ranch Company); Foreman with family: Manuel Pedro (1922-41) Animals on the island: • 500 cattle (200-300 in each of 2 pastures)	
1925-26	United States of America	G.L. 1049 1st Re-opener (\$300/yr)	
2/3/1927	United States of America	Presidential Proclamation 1827	U.S. Department of Commerce (Lighthouse Service)
12/19/1927	United States of America	Territorial Governor EO 308	U.S. Department of Commerce (Lighthouse Service)
3/15/1929	United States of America		KRC sublease to: Shibata, Miyata & Associates (Pineapples)
5/23/1933	United States of America	G.L. 1049 terminated; G.L. 2341 Issued to Angus MacPhee and Harry Baldwin (Cattle Ranching—Kahoolawe Ranch Company); Foreman: Manuel Pedro (1933-41) Animals on the island: • 500 cattle (1939) • 200 sheep (1939) • 25 goats (1939) • 17 horses (1939) • 3 mules (1939) • 500 turkeys (1939)	
5/10/41	United States of America		KRC sublease to: U.S. War Department (\$1/yr to 1954)
12/8/41		MARTIAL LAW DECLARED	
3/1/1944	United States of America		KRC sublease to: USA/Supplemental Agreement 1 (\$235/yr for 1945-54)
10/18/1944	United States of America		KRC sublease to: USA/Supplemental Agreement 2
10/1/1952	United States of America	Territorial Governor EO 1528 cancels EO 308 U.S. Department of Commerce (Lighthouse Service)	
9/30/1952	United States of America	G.L. 2341 terminated	
11/7/1952	United States of America	Territorial Revocable Permit 800 issued to U.S. Department of the Navy	
2/20/1953	United States of America	Presidential Executive Order 10436 issued: Secretary of the Navy	
12/1/1980		U.S. District Court of Hawaii to: Secretary of the Navy and the Protect Kaho'olawe 'Ohana	

## Appendix 7. Executive Pronouncements

### Presidential Pronouncements

- 02/03/1928 Presidential Proclamation No. 1827 by Calvin Coolidge sets aside 23.3 acres on Kaho`olawe for lighthouse purposes.
- 02/20/1953 Executive Order No. 10436 by Dwight D. Eisenhower places Kaho`olawe under the authority of the Secretary of the Navy for military training purposes.
- 10/22/1990 Presidential Memorandum by George Bush to the Secretary of Defense directs the Secretary to "immediately discontinue use of Kaho`olawe as a weapons range."

### Gubernatorial Pronouncements

- 08/25/1910 Governor's Proclamation by Walter F. Frear designates the entire island of Kaho`olawe as the Kaho`olawe Forest Reserve.
- 04/20/1918 Governor's Proclamation by Lucius Pinkham withdraws the entire island of Kaho`olawe from the forest reserve.
- 12/19/1927 Governor's Executive Order No. 308 by Wallace R. Farrington sets aside 23.2 acres of Kaho`olawe as a United States Lighthouse reservation.
- 10/01/1952 Governor's Executive Order No. 1528 by Oren E. Long cancels Governor's Executive Order No. 308.
- 01/08/1976 Governor George Ariyoshi states "it's only a matter of time before the military stops using Kaho`olawe as a bombing target and turns it over to the State. . ."
- 08/18/1992 Governor John Waihee proclaims August 21-22, 1992, as "Days of Acknowledgment" to recognize the history of Kaho`olawe and its significance as a place of healing.
- 8/21/1992 Governor John Waihee recognizes the Protect Kaho`olawe `Ohana for its past efforts and stewardship role for Kaho`olawe at rededication ceremonies at Hakioawa on Kaho`olawe and recognizes the island as a historically significant place of healing.

### Mayoral Pronouncements

- 09/15/1969 Maui County Mayor Elmer Cravalho expresses concern over the Navy's inability to keep animal populations down on Kaho`olawe in violation of Presidential Executive Order No. 10436.
- 07/15/1971 Maui County Mayor Elmer Cravalho and Maui County Chairman Goro Hokama describe the Secretary of the Navy and his response to Kaho`olawe issues as "the extreme height of arrogance."
- 02/14/1973 Maui County Mayor Elmer Cravalho asks the Hawai`i Congressional delegation to include a "Kaho`olawe rider" in a billion-dollar Vietnam rehabilitation bill for the island's "cleanup, reforestation, and goat control."
- 01/29/1976 Maui County Mayor Elmer Cravalho petitions the Federal Aviation Administration (FAA) to suspend the permits granting the Navy use of two air corridors over Kaho`olawe.
- 02/09/1977 Maui County Mayor Elmer Cravalho seeks a temporary restraining order to prevent the military from conducting live firing practice.



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- 09/21/1977 Maui County seeks payment from the federal government for use of Kaho`olawe under the "Payments in Lieu of Taxes Act."
- 03/11/1987 Maui County Mayor Hannibal Tavares requests that President Ronald Reagan take action to cease bombing activities on Kaho`olawe.
- 05/23/1988 Maui County Mayor Hannibal Tavares proclaims May 1988 as "Kaho`olawe Month."
- 06/09/1988 Maui County Mayor Hannibal Tavares joins members of the Protect Kaho`olawe `Ohana at Hakioawa Bay on Kaho`olawe and claims the island for the County of Maui and the people of Hawai`i.
- 06/09/1988 Maui County Mayor Hannibal Tavares requests that President George Bush take action to cease bombing activities on Kaho`olawe.
- 04/11/1990 Maui County Mayor Hannibal Tavares requests that the Prime Minister of Canada and President George Bush take action to stop the use of Kaho`olawe as a bombing site.
- 04/23/1990 Maui County Mayor Hannibal Tavares requests that the Prime Minister of the Republic of Korea take action to stop the use of Kaho`olawe as a bombing site.
- 04/20/1992 Maui County Mayor Linda Crocket Lingle proclaims the weekend of August 21-21, 1992, "Kaho`olawe—The New Beginning" weekend.

### Appendix 8. Legislative Actions

#### Congressional Legislation

- 1970      Hawai'i Senator Hiram Fong requests that the Navy cease bombing Kaho'olawe in conjunction with the cessation of bombing on Culebra in Puerto Rico.
- 1971      S. 1662 is introduced by Hawai'i Senator Daniel K. Inouye "to provide for the conveyance of Kaho'olawe to the State of Hawai'i" and to support appropriate soil and water conservation activities and the removal of ordnance.
- 1974      S. 3466 is introduced by Hawai'i Senator Daniel K. Inouye to provide for the conveyance of Kaho'olawe to the State of Hawai'i and to carry out soil and water conservation activities and removal of ordnance.
- 1974      S. 3000, introduced by Senator Hubert H. Humphrey, is amended to include a resolution introduced by Hawai'i Senator Hiram Fong directing the Pentagon to look for an alternative to Kaho'olawe as a practice range for bombing.
- 1975      H.R. 1705 is introduced by Congresswoman Patsy Mink. The bill provides for the conveyance of Kaho'olawe to the State of Hawai'i, the support of appropriate soil and water conservation activities, and the removal of ordnance. The wording of the bill is similar to that of S. 1662.
- 1975      H.R. 10029 is attached to the 1976 Appropriations Bill by Senator Daniel K. Inouye directing the Pentagon to study the feasibility of restoring Kaho'olawe and returning the island to the State of Hawai'i.
- 1977      S. 221 is introduced by Hawai'i Senator Daniel K. Inouye. The bill authorizes the Secretary of the Navy to set aside and clear a certain portion of Kaho'olawe as a pilot project to determine the feasibility and costs factors of clearing the island and its surrounding waters of ordnance.
- 1990      S. 3088 is introduced by Hawai'i Senators Daniel K. Akaka and Daniel K. Inouye. This bill establishes a commission to study and recommend terms and conditions for returning Kaho'olawe to the State of Hawai'i, to prohibit the use of the land as a bombing range, to provide a study of a potential marine sanctuary in the vicinity of the island, and to limit improvements to the island during the period of study.
- 1990      S. 3189 is reported by Hawai'i Senator Daniel K. Inouye making appropriations for the Department of Defense for the fiscal year ending September 30, 1991, and incorporating the language of S. 3088 and restricting military funding for live ordnance training on Kaho'olawe. An appropriation of \$1.5 million is provided to the Kaho'olawe Island Conveyance Commission.
- 1992      H.R. 5504 is introduced by Hawai'i Representatives and incorporated into the Department of Defense appropriations bill extending the life of the Kaho'olawe Island Conveyance Commission to September 30, 1993, and providing it with an additional appropriation of \$500,000.

#### Territorial/State Legislation

- 1909      H.C.R. 19, introduced by Territorial legislator R.W. Shingle, states that Kaho'olawe "should not be leased upon the termination of the existing lease (Eben Low/Lessee), but that every effort should be made by the proper authorities for the killing of all animal life upon said island and for the improvement and restoration of the plant life thereon."



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- 1911 H.B. 218, introduced by Territorial legislator S. Keliinoi, authorizes the Department of Forestry to cancel the Kaho`olawe lease (Eben Low/lessee) and to "refund all back rents due" for the lease. (See House Committee Report 278.)
- 1927 S.J.R., introduced by Territorial Senator H.W. Rice, requests that the U.S. Congress amend the Organic Act to allow the Commission of Public Lands to sell at public auction the island of Kaho`olawe.
- 1949 H.B. 849, introduced by Territorial legislators Samuel Ichinose and Jack P. King, appropriates \$2 million for the construction and development of a Territorial prison on Kaho`olawe.
- 1964 S.C.R. 8, introduced by Nadao Yoshinaga, requests that the Federal Government transfer title of Kaho`olawe to the State of Hawai`i (See Committee Report 516).
- 1964 H.C.R. 13, introduced by Mamoru Yamasaki, requests that the Federal Government transfer title of Kaho`olawe to the State of Hawai`i (See Committee Report 539).
- 1970 H.R. 150, introduced by Henry Takitani, requests that the military halt bombing of Kaho`olawe and return the island to civilian use (See Committee Report 521-70).
- 1973 H.C.R. 22 requests that the Secretary of the Navy halt the bombing of Kaho`olawe and return the island to the State of Hawai`i.
- 1973 H.B. 1409, introduced by Patsy Young, requests a reassessment of the military's need for Kaho`olawe.
- 1974 H.B. 10409 is reconsidered.
- 1975 H.C.R. 54, introduced by Gerald Machida, requests that the Federal Government return Kaho`olawe to the State of Hawai`i (See Committee Reports 632 and 1272).
- 1975 H.R. 568, introduced by Henry Peters, requests that the Federal Government return Kaho`olawe to the State of Hawai`i.
- 1976 H.R. 246, introduced by Gerald Machida, authorizes a feasibility study of alternative uses for the island of Kaho`olawe (See Committee Report 616-76).
- 1976 S.C.R. 44, introduced by Henry Takitani, requests that Kaho`olawe be returned to the State of Hawai`i (See Committee Report 688-76).
- 1976 S.R. 6, introduced by Mamoru Yamasaki, requests that Kaho`olawe be returned to the State of Hawai`i.
- 1976 S.R. 166, introduced by Henry Takitani, requests that Kaho`olawe be returned to the State of Hawai`i.
- 1977 H.B. 1129, introduced by Richard Caldito and Gerald Machida, supports archaeological and historical research on Kaho`olawe (See Committee Reports 363, 411, and 581).
- 1977 H.R. 321, introduced by Henry Peters, condemns the action of the U.S. Marines who printed "Bomb Kaho`olawe `Ohana" T-shirts and requests that the Federal Government halt bombing of Kaho`olawe and render the island "safe for human habitation."
- 1977 H.C.R. 80 requests that the Federal Government cease all "destructive" activities and conduct a cultural inventory of archaeological remains. The U.S. Congress is to implement these activities.
- 1977 S.R. 392, introduced by John Ushijima, requests that the Department of Defense use nonexplosive ordnance during military exercises on Kaho`olawe, conduct a feasibility study of restoring the island, and restore and return the island to the State of Hawai`i.
- 1978 H.B. 1129 is reconsidered (See Committee Reports 58, 363, and 642).
- 1978 H.C.R. 121, introduced by Jann Yuen, calls for continued monitoring of the Kaho`olawe situation and a follow-up study by a joint interim committee (See Committee Reports 1037-78 and 1097-78).
- 1986 S.B. 2177, introduced by State Senator Malama Solomon, makes an appropriation for the protection of Kaho`olawe for the purpose of ethnographic studies.

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- 1986 S.B. 2177, introduced by State Representative M. Andrews, makes an appropriation for a survey and development plan for water resources on Kaho`olawe.
- 1986 G.M. 185 makes appointments to the Board of Registration for Maui, Moloka`i, Lana`i, and Kaho`olawe (Maui County).
- 1986 S.B. 2420, introduced by State Senator Malama Solomon, makes an appropriation for a survey and development plan for water resources on Kaho`olawe.
- 1987 H.B. 1811, introduced by State Representative B. Pfeil, identifies the 3rd Land District of public lands, to include the islands of Moloka`i, Lana`i, Molokini, and Kaho`olawe.
- 1988 S.C.R. 122, introduced by State Senator R. Reed, requests that Canada not participate in the shelling of Kaho`olawe during the 1988 Rim of the Pacific (RIMPAC) military exercises.
- 1988 S.R. 130, introduced by State Senator R. Reed, requests that Canada not participate in the shelling of Kaho`olawe during the 1988 RIMPAC military exercises.
- 1988 S.C.R. 6, introduced by State Senator R. Reed, urges that the U.S. Navy immediately halt its shelling and bombing of Kaho`olawe.
- 1988 S.C.R. 12, introduced by State Senator J. Wong, requests that the United States Government return Kaho`olawe to the State of Hawai`i.
- 1988 S.R. 8, introduced by State Senator R. Reed, urges the U.S. Navy to immediately halt shelling and bombing of Kaho`olawe.
- 1988 S.R. 17, introduced by State Senator J. Wong, requests that the United States Government return Kaho`olawe to the State of Hawai`i.
- 1988 S.R. 80, introduced by State Senator M. Yamasaki, requests that the U.S. Navy return Kaho`olawe to the State of Hawai`i and Maui County.
- 1988 H.C.R. 292, introduced by State Representative B. Pfeil, requests that Canada not participate in the shelling of Kaho`olawe as part of the 1988 RIMPAC military training exercises.
- 1988 H.R. 374, introduced by State Representative B. Pfeil, requests that Canada not participate in the shelling of Kaho`olawe as part of the 1988 RIMPAC military training exercises.
- 1988 G.M. 265 makes appointments to the Board of Registration for Maui, Moloka`i, Lana`i, and Kaho`olawe (Maui County).
- 1988 S.C.R. 68, introduced by State Senator M. Yamasaki, requests that the U.S. Navy return Kaho`olawe to the State of Hawai`i and Maui County.
- 1989 S.B. 304, introduced by State Senator M. Yamasaki, makes an appropriation for a water resources study of Kaho`olawe.
- 1989 S.B. 1039, introduced by State Senator Malama Solomon, establishes a negotiation fund within the Department of Land and Natural Resources (DLNR) for the return of Kaho`olawe to the State of Hawai`i.
- 1989 S.B. 1204, introduced by State Senator Norman Mizuguchi, makes an appropriation for a grant-in-aid to the U.S. Navy for floating structures as an alternative to using Kaho`olawe for ordnance training and for related actions.
- 1990 S.B. 2531, introduced by State Senator Malama Solomon, establishes a negotiating fund within DLNR for the return of Kaho`olawe to the State of Hawai`i.
- 1990 G.M. 243 makes appointments to the Board of Registration for Maui, Moloka`i, Lana`i, and Kaho`olawe (Maui County).
- 1991 S.R. 122, introduced by State Senator Norman Mizuguchi, requests that the Committee on Employment and Public Institutions review progress on the disposition of Kaho`olawe.



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- 1992 H.C.R. 135, introduced by State Representative Mike O'Kieffe, requests that the island of Kaho'olawe be returned to the jurisdiction of the State of Hawai'i and that all military operations cease on the island.
- 1992 H.R. 145, introduced by State Representative Mike O'Kieffe, requests that the island of Kaho'olawe be returned to the jurisdiction of the State of Hawai'i and that all military operations cease on the island.
- 1992 G.M. 270 makes appointments to the Board of Registration for Maui, Moloka'i, Lana'i, and Kaho'olawe (Maui County).

### County Councils

#### Kauai

- 02/03/1976 Resolution No. 230, introduced by Jerome Hew, requests that President Gerald Ford order a cessation of bombing of Kaho'olawe and return the island to the people of Hawai'i.
- 11/28/1990 Resolution No. 94, Draft 1, introduced by Ronald Kouchi, requests that foreign nations withdraw from RIMPAC exercises and that the U.S. Navy discontinue use of Kaho'olawe as a bombing target.
- 07/29/1992 Resolution No. 100-92, introduced by Ronald Kouchi, proclaims August 21-22, 1992, as days when the residents of the State are asked to acknowledge that the sacred island of Kaho'olawe is a historically significant place of healing.

#### Honolulu

- 01/28/1976 Resolution No. 76-29, introduced by Frank Loo, requests that the U.S. Navy cease bombing Kaho'olawe and that a study of the island's resources be conducted.
- 06/06/1988 Resolution No. 88-236, introduced by Gary Gill, requests that the U.S. Navy stop bombing Kaho'olawe and return the island to the people of Hawai'i.
- 07/23/1992 Resolution No. 92-187, introduced by Rene Mansho, proclaims August 21-22, 1992, as days when the residents of the city are asked to acknowledge that the sacred island of Kaho'olawe is a historically significant place of healing.

#### Maui

- 01/17/1969 Resolution No. 19, introduced by Joseph Bulgo and Lanny Morisaki, requests that the U.S. Navy find alternative islands for its bombing practice and return Kaho'olawe to productive use.
- 10/03/1969 Resolution No. 224 requests that President Richard M. Nixon issue a directive to terminate all military activities on the island of Kaho'olawe.
- 01/16/1970 Resolution No. 16, introduced by E. Loy Cluney, requests that the county attorney study and determine the legality of the U.S. Navy's activities on Kaho'olawe.
- 02/06/1970 Resolution No. 38, introduced by Marco M. Meyer, requests that the Mayor tour Kaho'olawe and submit alternative sites to the U.S. Navy for its activities.
- 03/20/1970 Resolution No. 248, introduced by Yoneto Yamaguchi, requests that the Maui Soil and Water Conservation District work with the State of Hawai'i to restore Kaho'olawe.
- 05/15/1970 Resolution No. 181, introduced by Joseph E. Bulgo, requests that the Navy transport interested parties attending the Maui Chapter of the Conservation Council and the Mayor's Committee on Kaho'olawe's Public Symposium on Kaho'olawe to the island for an inspection trip.
- 06/19/1970 Resolution No. 241, introduced by Joseph E. Bulgo, thanks the U.S. Navy for providing escort service to the Mayor and Councilmen during their inspection trip to Kaho'olawe.

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- 2/19/1971 Resolution No. 52, introduced by Yoneto Yamaguchi, endorses efforts by Senator Daniel K. Inouye to have Kaho`olawe returned to the State of Hawai`i and the County of Maui.
- 07/20/1973 Resolution No. 88, introduced by Goro Hokama, strongly urges the U.S. Congress to seriously consider the enactment of H.R. 3156, returning Kaho`olawe to the people of the State of Hawai`i and Maui County.
- 02/06/1976 Resolution No. 76-9, introduced by E. Loy Cluney, requests that the Federal Government return Kaho`olawe to the State of Hawai`i.
- 02/06/1976 Resolution No. 76-10, introduced by E. Loy Cluney, requests that the Governor of Hawai`i encourage the Federal Government to relinquish Kaho`olawe to the State of Hawai`i.
- 02/11/1977 Resolution No. 77-33, introduced by E. Loy Cluney, requests that the United States Armed Forces immediately stop bombing and/or shelling of Kaho`olawe.
- 09/05/1980 Resolution No. 80-142, introduced by Goro Hokama, commends Congressman Spark Matsunaga for requesting that the U.S. Navy halt military construction on Kaho`olawe.
- 04/02/1982 Resolution No. 82-33, introduced by Allen W. Barr and Wayne Nishiki, requests that the Department of the Navy and RIMPAC terminate use of Kaho`olawe as a bombing target.
- 08/20/1987 Resolution No. 87-98, introduced by Goro Hokama, requests that the U.S. Navy return the island of Kaho`olawe to the State of Hawai`i and the County of Maui.
- 06/03/1988 Resolution No. 88-55, introduced by Wayne Nishiki and Goro Hokama, relates to RIMPAC military training exercises and the return of the island of Kaho`olawe to the State of Hawai`i and the County of Maui.
- 07/20/1990 Resolution No. 90-77, introduced by Goro Hokama, requests that the U.S. Navy discontinue use of the island of Kaho`olawe as a gunnery and bombing target and return the island to the State of Hawai`i and the County of Maui.
- 08/07/1992 Resolution No. 92-57, introduced by Goro Hokama, recognizes August 21-22, 1992, as days of acknowledgment that the sacred island of Kaho`olawe is a historically significant place of healing.

### Hawai`i

- 1976 Resolution No. 520, introduced by Merle Lai, seeks a temporary halt to the bombing of Kaho`olawe.
- 08/12/1992 Resolution No. 508-92, introduced by Kalani Schutte, proclaims August 21-22, 1992, as days for the residents of the County of Hawai`i to acknowledge the sacred island of Kaho`olawe as a historically significant place of healing.



## Appendix 9. Court Decisions

- 7/29/1971 Maui Mayor Elmer Cravalho and Life of the Land file suit in Federal District court to stop the U.S. Navy from bombing Kaho`olawe and request that an environmental impact statement (EIS) be prepared for the Island. (*Elmer Cravalho, Individual, and as Mayor of the County of Maui, Life of the Land, a Non-Profit Hawaii Corporation v. Melvin Laird, Secretary of Defense, John Chafee, Secretary of the Navy, and Rear Admiral Thomas B. Hayward, Commander, Air Fleet, Hawaii* (Civil No. 71-3391))
- 11/22/1971 Federal Judge Nils Tavares opens hearing on suit.
- 3/3/1972 Federal Judge Nils Tavares requires that the U.S. Navy submit the necessary EIS information for review by the plaintiffs.
- 04/28/72 U.S. Navy submits its final EIS for Kaho`olawe.
- 05/25/72 Federal Judge Nils Tavares dismisses the *Cravalho, et al.* complaint upon receiving the U.S. Navy's EIS.
- 10/13/1976 Citizens (members of the Protect Kaho`olawe Association) file suit against the U.S. Navy contending that naval activities on Kaho`olawe are in violation of environmental laws, historic preservation laws, and freedom of religion practices. (*Noa Emmett Aluli; Emma DeFries; Paul Fujishiro; Warren Mills Haynes, Jr.; George Helm; Charles Kauluwehi Maxwell, Sr.; Karl Anthony Mowat; Adrian Nacua; Katherine B. Ochwat, Walter S. Ritte, Loretta Ritte; Herbert F. Santos; Richard Sawyer; and Protect Kaho`olawe Association v. Donald H. Rumsfeld, Secretary of Defense; J. William Middendorf II, Secretary of the Navy; James L. Holloway, Chief of Naval Operations; Ralph S. Wentworth, Jr., Commandant, 14th Naval District* (Civil No. 76-0380))
- 09/15/77 Federal Judge Dick Yin Wong issues his partial summary judgments for the plaintiffs and requires that the Navy prepare a new EIS within 45 days and annually thereafter.
- 12/01/80 Federal Judge William W. Schwarzer issues his Consent Decree and Order containing instructions to the Navy and providing the plaintiffs with access to the island. The decree contains the following sections: (I) land management plan; (II) ocean management plan; (III) operation controls; (IV) archaeological plan; (V) access; and (VI) miscellaneous.
- (*Noa Emmett Aluli, et al., Plaintiffs v. Harold Brown, et al., Defendants*)
- 02/04/1977 Trespass charges are brought by the United States against two Protect Kaho`olawe Association members for landing on the island. (*United States v. Walter Ritte, Jr. and Richard Sawyer* (Criminal No. 77-00341))
- 02/09/1977 Trespass charges are brought by the United States against two Protect Kaho`olawe Association members for landing on the island. (*United States v. Karl A. Mowat and Glen K. Davis* (Criminal No. 77-00188))
- 02/10/1977 Citizens (members of the Protect Kaho`olawe Association) file suit to stop military training exercises on Kaho`olawe. (*Walter Ritte, Jr.; Richard Sawyer; Loretta Ritte; and Zinedia Sawyer v. Harold Brown, Secretary of Defense; J. William Middendorf II, Secretary of the Navy; James L. Holloway, Chief of Naval Operations; Ralph Wentworth, Jr., Commandant of the 14th Naval District; and Thomas B. Hayward, Commander-In-Chief, Pacific Fleet, USN* (Civil No. 77-0043))
- 03/28/79 Federal Judge Samuel King dismisses suit.

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- 2/10/1977 Maui Mayor Elmer Cravalho, on behalf of Maui County, files suit to stop military training exercises on Kaho`olawe. (*Elmer Cravalho, Mayor of County of Maui v. Harold Brown, Secretary of Defense; J. William Middendorf II, Secretary of the Navy; James L. Holloway, Chief of Naval Operations; Ralph S. Wentworth, Jr., Commandant of the 14th Naval District; and Thomas B. Hayward, Commander-In-Chief, Pacific Fleet, USN* (Civil No. 77-0044))
- 03/28/79 Federal Judge Sam King dismisses suit.
- 03/06/1977 Citizen files suit for seizure of boat and violation of due process. (*Joyce Kainoa v. James Moreau, Rear Admiral, USN* (Civil No. 77-00083))
- 03/18/77 Federal Judge dismisses suit.
- 05/11/1977 Trespass charges are brought by the United States against three members of the Protect Kaho`olawe Association for their landing on Kaho`olawe. (*United States v. Samuel Kealoha, Joyce A.M. Kainoa, and Rae M.L. Chang* (Criminal No. 77-0496))
- 08/06/1977 Trespass charges are brought by the United States against 14 members of the Protect Kaho`olawe `Ohana for landing on the island. (*United States v. Kaliko Martin; Puanani Kealoha; Archibald Brito, Jr.; Anne Rogers; John Shoemaker; John DeLeon; Anthony Bartel, Jr.; Kathryn Bartel; Terrilee Kekoolani; Maxine Kahaulelio; Julie Brossy; Soli Niheu; Carl Bannister, Jr.; and Bart Dane* (Criminal # 77-00992))
- 08/29/1977 Citizen files writ of Habeas Corpus in his court case regarding trespass on Kaho`olawe. (*Walter Ritte, Jr. v Griffin Bell* (Civil No. 77-00340))
- 07/17/78 Federal Judge dismisses case.
- 09/08/1977 Trespass charges are brought by the United States against five members of the Protect Kaho`olawe Association for their landing on Kaho`olawe. (*United States v. Adolph Helm* (Criminal No. 77-01085); *United States v. Jeanette Y. Foster* (Criminal No. 77-01086); *United States v. Earl DeLeon* (Criminal No. 77-01087); *United States v. Roman Dombriques, Jr.* (Criminal No. 77-01088); *United States v. Isaac D. Hall* (Criminal No. 77-01089))
- 09/15/1977 Citizen files for federal declaratory judgement—Act 28-2201. (*Walter Ritte, Jr., Richard Sawyer, Jr. v. Jimmy Carter, President of the United States; and W. Graham Claytor, Jr., Secretary of the Navy* (Civil No. 77-00365))
- 08/17/79 Federal Judge dismisses case.



### Appendix 10. Estimated Types of Ordnance

**Excerpted From:** Environment Impact Study Corp. *Environmental Impact Statement Military Use of Kahoolawe Training Area*, prepared for Department of the Navy, September 1979; pp. I-30-I-38.

#### B. Types of Ordnance Used

Two types of ordnance are used on the target complex: service (live) and practice (inert).

Generally, training begins with use of practice (inert) ordnance until a specified level of competency is achieved and then service (live) ordnance is used. Training with service ordnance is and will remain a vital requirement to maintain readiness for combat units.

The types of ordnance found on the Kahoolawe Island Target Complex include, by general category:

##### Bombs

Bombs found on the target complex range from 2 pounds to 2,000 pounds. The maximum size bomb currently used is MK82 (500 lb.), but larger-sized bombs were used many years ago. The bombs [used include general purpose, anti-personnel], fuel air explosive, and fire bombs (napalm). They contain explosives weighing from .25 lbs. up to 1,000 lbs. Fuzing mechanisms vary and include impact, cocked striker, piezoelectric, time delay, variable delay, variable time and some with anti-disturbance features.

##### Projectiles

Projectiles found on the target complex vary from aircraft-fired 20 mm to ship-fired 16-inch projectiles to 81 mm [sic-mortar?] rounds. Explosive weights range from 0.017 pounds to 1,900 pounds and the fuzing mechanisms include impact (tail or nose), mechanical time, powder train time and piezoelectric mechanisms.

##### Rockets

A variety of rockets ranging from 7.2-inch rocket thrown depth charge, 2.75-inch and 5-inch aircraft launched, and 5-inch shipboard-launched barrage rockets [have been found]. The explosive weights range from 2.3 pounds to 33 pounds and fuzing mechanisms include impact, variable time, powder time and hydrostatic.

##### Flares

Flares have been and are used for illumination during night training activities. Flares are either aircraft dropped or shipboard fired 5-inch star projectiles. The illuminating charge weighs about 17 pounds and the fuzing mechanisms include mechanical and powder train.

#### C. Unexploded Ordnance (Duds) Hazards

The target complex has been used as a live ordnance target since 1941 and has been contaminated with all types of unexploded ordnance. All such ordnance found on the island was originally delivered as designed and should have theoretically detonated. No deactivating feature was incorporated into the munitions and each piece of dud ordnance must be considered live and therefore considered hazardous.

Some of the dud ordnance are now more hazardous because of the type of fuzing mechanism and the increased sensitivity due to exposure to the elements. For example, "cocked striker" fuzing system involves a firing pin held under spring compression until it is released at impact. If the system malfunctions, the firing pin remains cocked and may require only the slightest jar to function. Also, ordnance having "piezoelectric crystal," "anti-disturbance" and "all-ways acting fuzes" may detonate at the slightest disturbance.

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Especially dangerous are the small bombs with anti-disturbance fuzes which are distributed from dispensers and are armed by spinning in the air during descent and intended to detonate upon impact. If detonation fails to occur, these bomblets may be detonated by the slightest movement. The dangerous situation is increased by the bomb's small size, frequently camouflage-painted, and may be located just below the ground surface.

Also, the majority of practice ordnance items, which are generally considered inert, are, in fact, also hazardous. The smaller practice items contain shotgun charges that can cause serious injury and the larger items contain lethal black powder charges.

Unexploded (dud) ordnance are found lying on the ground surface, just below the ground surface, buried deeply, and in offshore waters of the target complex. The penetration depth of the underground dud ordnance items range from 2-3 feet for gun-fired projectiles, and 15 feet or greater for aerial delivered bombs. Potential hazards from detonation are great to people, vehicles and other activities requiring movement of soil. For example, a single 100-lb. bomb buried 10 feet, upon detonation, results in a crater 12 feet wide and can break a building foundation located 40 feet away or wreck a 9-inch brick wall located 15 feet away. Dud ordnance having lesser and greater amounts of explosives would produce corresponding effects.



## Appendix 11. An Alphabetical Listing of Known Place Names

This is a listing of all known place names—traditional, historic, and recent—as described in the KICC special report “The Place Names of Kaho`olawe.” Some of the place names are of doubtful origin and should be used with caution. Each known place name is shown in bold print followed by a chronological listing of the name as it has appeared over time, including a reference to the map or document in which it was found.

### Ahu pu iki

Ahu pu iki—1917 (Kauwekane, 1917a)  
 Ahupu iki—1917 (Kauwekane, 1917b)  
 Ahupu iki—1929? (Unknown, undated)  
 Ahupuiki Bay—1977 (Motteler, 1977a)  
 Ahupuiki Bay—1983 (\*Motteler, 1983:5)

### Ahupu

Ahupu—1857 (\*Nahaolelua & Richardson, 1857:2)  
 Ahupu—1858 (\*Allen, 1858:1)  
 Ahupu Bay—1889 (Doc. 1126,, undated-b)  
 Ahupu nui—1911? (Conradt, undated)  
 Ahupu ?B.—1913 (\*Stokes, 1913:1:7)  
 Ahupu B—1913? (Stokes, undated-a)  
 Kuhei Bay—1913? (Stokes, undated-b)  
 Ahupunui Bay—1913? (Stokes, undated-c)  
 Ahupu Bay—1916 (Emory, 1916)  
 Ahupu nui—1917 (Kauwekane, 1917a)  
 Ahupu nui—1917 (Kauwekane, 1917b)  
 Ahupu Bay—1926? (L.M.Z., undated)  
 Ahupu Bay—1926 (U.S.G.S., 1926)  
 Ahupu Bay—1929 (U.S.G.S., 1929)  
 Ahupunui—1929? (Unknown, undated)  
 Ahupu Bay—1933 (\*McAllister, 1933)  
 Ahupu Bay—1939 (Stearns, 1939)  
 Ahupu Bay—1940 (Stearns, 1940a)  
 Ahupu Bay—1947 (U.S.G.S., 1947)  
 Ahupu Bay—1954 (U.S.N., 1954)  
 Ahupu Bay—1970s (Tax Key, undated)  
 Ahupu Bay—1975 (Ashdown, 1975)  
 Ahu pu Bay—1975 (Ashdown, 1975b)  
 Ahupu Bay—1977 (Ashdown, 1977)  
 Ahupu Bay—1977 (Motteler, 1977a)  
 Ahupu Bay—1978 (Raposa, 1978)  
 Ahupu Bay—1980 (29th Eng., 1980)  
 Ahupu Bay—1982 (D.M.A., 1982)  
 Ahupu Bay—1983 (Motteler, 1983)  
 Ahupu Bay—1983 (\*Motteler, 1983:5)  
 Ahupu Bay—1984 (U.S.G.S., 1984)

### Ahupu Gulch

Ahupu Gulch—1926 (U.S.G.S., 1926)  
 Ahupu Gulch—1929 (U.S.G.S., 1929)  
 Ahupu Gulch—1947 (U.S.G.S., 1947)  
 Ahupu Gulch—1970s (Tax Key, undated)  
 Ahupu Gulch—1977 (Motteler, 1977a)  
 Ahupu Gulch—1982 (D.M.A., 1982)  
 Ahupu nui Stream—1975 (Ashdown, 1975)  
 Ahupu Gulch—1978 (Raposa, 1978)  
 Ahupu Gulch—1980 (29th Eng., 1980)  
 Ahupu Gulch—1983 (Motteler, 1983)  
 Ahupu Gulch—1983 (\*Motteler, 1983:5)  
 Ahupu Gulch—1984 (U.S.G.S., 1984)

### Ahupu (Ili)

Ahupu—1889? (Doc. 1126, undated-a)  
 Ahupuiki—1977 (Motteler, 1977a)  
 Ahupunui—1977 (Motteler, 1977a)

### Ahupuiki Gulch

Ahupuiki Gulch—1926 (U.S.G.S., 1926)  
 Ahupuiki Gulch—1929 (U.S.G.S., 1929)  
 Ahupuiki Gulch—1947 (U.S.G.S., 1947)  
 Ahupuiki Gulch—1970s (Tax Key, undated)  
 Ahupuiki Gulch—1977 (Motteler, 1977a)  
 Ahupuiki Gulch—1982 (D.M.A., 1982)  
 Ahupu iki Stream—1975 (Ashdown, 1975)  
 Ahupuiki Gulch—1978 (Raposa, 1978)  
 Ahupuiki Gulch—1983 (Motteler, 1983)  
 Ahupuiki Gulch—1983 (\*Motteler, 1983:5)  
 Ahupuiki Gulch—1984 (U.S.G.S., 1984)

### Ahupunui (Fishing Ground)

Ahupunui—1902 (\*Kahaulelio, 1902:28)

## Aikupau

Aikupau—1902 (\*Thrum, 1902:121)  
 Aikupo—1913? (Stokes, undated-c)  
 Aikupou—1917 (Kauwekane, 1917a)  
 Aikupou—1917 (Kauwekane, 1917b)  
 Waaiki Bay—1925? (Dranga?, undated)  
 Aikupou—1929? (Unknown, undated)  
 Aikupo—1933 (\*McAllister, 1933:57)  
 Aikupau—1983 (\*Motteler, 1983:4)  
 Aikupo—1983 (\*Motteler, 1983:4)  
 Aikupou—1983 (\*Motteler, 1983:4)

## Aleale

Aleale—1913? (Stokes, undated-c)  
 Puu Koae—1913? (Stokes, undated-b)  
 Aleale—1917 (Stokes, 1917)  
 Aleale Pt.—1926? (L.M.Z., undated)  
 Aleale—1926 (U.S.G.S., 1926)  
 Aleale—1929 (U.S.G.S., 1929)  
 Aleale—1933 (\*McAllister, 1933:57)  
 Aleale—1947 (U.S.G.S., 1947)  
 Aleale—1970s (Tax Key, undated)  
 Aleale—1977 (Motteler, 1977a)  
 Aleale—1978 (Raposa, 1978)  
 Aleale—1982 (D.M.A., 1982)  
 Aleale—1983 (Motteler, 1983)  
 Aleale—1983 (\*Motteler, 1983:4)  
 Aleale—1984 (U.S.G.S., 1984)

## Black Rock

Black Rock—1989 (\*Clark, 1989:127)

## Cave of Kunaka

Cave of Kunaka—1889? (Doc. 1126, undated-b)  
 Cave of Kunaka—1913? (Stokes, undated-a)  
 Cave of Kunaka—1913? (Stokes, undated-c)  
 Cave of Kunaka—1916 (Emory, 1916)  
 Cave of Kunaka—1917 (Stokes, 1917)  
 Kunaka—1933 (\*McAllister, 1933:57)  
 Kunaka Cave—1977 (Motteler, 1977a)  
 Kunaka Cave—1982 (D.M.A., 1982)  
 Kunaka Cave—1983 (\*Motteler, 1983:4)  
 Cave of Kanaka—1983 (\*Napoka, 1983:1)  
 Luakunaka—1983 (\*Napoka, 1983:3)  
 Kunaka Cave—1984 (U.S.G.S., 1984)

## Hakioawa

Hakioawa Bay—1889? (Doc. 1126, undated-b)  
 Hakioawa—1902 (\*Thrum, 1902:119)  
 Hakioawa—1907 (\*Thrum, 1907:119)

Hakioawa—1910 (\**The Sunday Advertiser*,  
 8/28/1910:1:c,4)  
 Hakioawa—1911? (Conrad, undated)  
 Hakioawa B.—1913 (\*Stokes, 1913:I:6,9,13)  
 Hakioawa B.—1913? (Stokes, undated-a)  
 Hakioawa B or Olga—1913? (Stokes, undated)  
 Hakioawa Bay—1913? (Stokes, undated-c)  
 Hakioana Bay—1916 (Emory, 1916)  
 Hakioawa Bay—1917 (Stokes, 1917)  
 Hakioawa—1917 (Kauwekane, 1917a)  
 Hakioawa—1917 (Kauwekane, 1917b)  
 Hakioawa Bay—1925 (Dranga?, undated)  
 Hakioawa—1926 (U.S.G.S., 1926)  
 Hakioawa—1929 (U.S.G.S., 1929)  
 Hakioawa Bay—1933 (McAllister, 1933)  
 Hakioawa—1939 (Stearns, 1939)  
 Hakioawa—1940 (Stearns, 1940a)  
 Hakioawa—1947 (U.S.G.S., 1947)  
 Hakioawa—1970s (Tax Key, undated)  
 Hakioawa—1975 (Ashdown, 1975a)  
 Hakioawa Bay—1977 (Motteler, 1977a)  
 Hakioawa—1977 (Motteler, 1977a)  
 Hakioawa—1978 (Raposa, 1978)  
 Hakioawa—1980 (29th Eng., 1980)  
 Big Gulch—1980 (\*Clark, 1980:134)  
 Hakioawa—1982 (D.M.A., 1982)  
 Hakioawa—1983 (Motteler, 1983)  
 Hakioawa—1983 (\*Motteler, 1983:4)  
 Hakioawa Gulch—1983 (\*Motteler, 1983:4)  
 Hakioawa—1984 (U.S.G.S., 1984)

## Hakioawa iki (Ili)

Hakioawa iki—1889? (Doc. 1126, undated-a)  
 Hakioawaiki—1977 (Motteler, 1977a)

## Hakioawaiki

Hakioawaiki Gulch—1983 (\*Motteler, 1983:4)

## Hakioawa nui (Ili)

Hakioawa nui—1889? (Doc. 1126, undated-a)  
 Hakioawanui—1977 (Motteler, 1977a)

## Hakioawa Point

Hakioawa Pt.—1926? (L.M.Z., undated)  
 Hakioawa Pt.—1954 (U.S.N., 1954)  
 Hakioawa Point—1980 (29th Eng., 1980)

## Hale Mua Heiau

Heiau—1925? (Dranga?, undated)  
 Hale Mua Heiau—1983 (\*Motteler, 1983:4)



## Appendixes

### Hale o Papa Heiau

Heiau—1926 (U.S.G.S., 1926)  
Heiau—1929 (U.S.G.S., 1929)  
Heiau—1947 (U.S.G.S., 1947)  
Heiau—1970s? (Tax Key, undated)  
Hale o Papa—1977 (Motteler, 1977a)  
Hale o Papa Heiau—1977 (Motteler, 1977b)  
Heiau Kaulana—1978 (Raposa, 1978)  
Hale o Papa Heiau—1982 (D.M.A., 1982)  
Hale o Papa Heiau—1983 (\*Motteler, 1983:4)  
Hale o Papa Heiau—1984 (U.S.G.S., 1984)

### Hana Kanaia

Smuggler's Cove—1905 (Rhodes, 1905)  
Hanakanaea (Sand beach)—1911? (Conradt, undated)  
Smugglers B.—1913 (\*Stokes, 1913:I:8)  
Hanakanaea Bay—1913? (Stokes, undated-c)  
Waikahalulu—1916 (Emory, 1916)  
Smugglers Cover—1917 (Iao, 1917)  
Hanakanaea Bay—1917 (Stokes, 1917)  
Hana Kanaia—1917 (Kauwekane, 1917a)  
Hana Kanaia—1917 (Kauwekane, 1917b)  
Hanakanaea—1925? (Dranga?, undated)  
Hanakanaea—1926? (L.M.Z., undated)  
Hanakanaea—1926 (U.S.G.S., 1926)  
Hanakanaea—1929 (U.S.G.S., 1929)  
Hanakanaea—1933 (McAllister, 1933)  
Hanakanaea—1933 (\*McAllister, 1933:57)  
Hanakanaea—1947 (U.S.G.S., 1947)  
Hanakanaea—1954 (U.S.N., 1954)  
Hanakanaea—undated (Tax Key, undated)  
Honu Ka Naia—1975 (Ashdown, 1975a)  
Honu ka nae nae—1975 (Ashdown, 1975b)  
Hana Ka Naia—1977 (Ashdown, 1977)  
Honukanaenae Bay—1977 (Motteler, 1977a)  
Smuggler Cove—1977 (Motteler, 1977a)  
Honokanaia—1977 (Motteler, 1977b)  
Hanakanaea—1978 (Raposa, 1978)  
Smuggler Cove—1978 (Raposa, 1978)  
Hanakanaea (Smugglers Cove)—1980 (29th Eng., 1980)  
Honokanaia—1982 (D.M.A., 1982)  
Honokanaia—1983 (Motteler, 1983)  
Honokanaia—1983 (\*Motteler, 1983:5)  
Honokanaea—1983 (\*Motteler, 1983:5)  
Honokanaia—1984 (U.S.G.S., 1984)

### Hapuulili

Hapuulili—1925? (Dranga?, undated)

### Hapuunui Gulch

Hapuunui Gulch—1925? (Dranga?, undated)

### Hoaka

Hoaka—undated (\*HI. K.8)

### Honokanao

Honokanao (tank)—1977 (Motteler, 1977a)  
Honokanao—1983 (\*Motteler, 1983:5)  
Honokanao—1983 (\*Napoka, 1983:1)

### Honokoa (Ili)

Honokoa—1889? (Doc. 1126, undated-a)  
Honokoa—1977 (Motteler, 1977a)

### Honokoa

Honokoa—1875 (\**Ka Lahui Hawaii*, 12/23/1875: p.2, c. 2)  
Honokoa large bay—1889? (Doc. 1126, undated-b)  
Honokoa B—1913? (Stokes, undated-a)  
?Honokoa B—1913? (Stokes, undated b)  
Honokoa Bay—1925? (Dranga?, undated)  
Honokoa Bay—1926? (L.M.Z., undated)  
Honokoa Bay—1926 (U.S.G.S., 1926)  
Honokoa Bay—1929 (U.S.G.S., 1929)  
Honokoa Bay—1933 (McAllister, 1933)  
Honokoa—1933 (\*McAllister, 1933:57)  
Honokoa Bay—1947 (U.S.G.S., 1947)  
Honokoa Bay—1954 (U.S.N., 1954)  
Honokoa Bay—1970s (Tax Key, undated)  
Honokoa Bay—1977 (Motteler, 1977a)  
Honokoa Bay—1978 (Raposa, 1978)  
Honokoa Bay—1980 (29th Eng., 1980)  
Honokoa Bay—1982 (D.M.A., 1982)  
Honokoa Bay—1983 (Motteler, 1983)  
Honokoa Bay—1983 (\*Motteler, 1983:5)  
Honokoa Bay—1984 (U.S.G.S., 1984)  
Tickman Bay—1989 (\*Clark, 1989:127)

### Honokoa (Fishing Ground)

Honokoa—1902 (\*Kahaulelio, 1902:28)

### Honukanaenae

Honukanaenae—1982 (D.M.A., 1982)  
Honukanaenae—1983 (\*Motteler, 1983:5)  
Honukanaenae—1984 (U.S.G.S., 1984)

## Restoring a Cultural Treasure

### Hoponui

Hoponui (tank)—1977 (Motteler, 1977a)  
Hoponui—1983 (\*Motteler, 1983:5)

### Hula Kao

Hula Kao—1916 (Emory, 1916)  
Hulo Kao—1977 (Motteler, 1977a)  
Hulo Kao—1983 (\*Motteler, 1983:4)  
Hula Kao—1984 (U.S.G.S., 1984)

### Iiililoa

Iiililoa—1889? (Doc. 1126, undated-b)  
Iiililoa—1916 (Emory, 1916)  
Iiililoa—1917 (Stokes, 1917)  
Iiililoa—1933 (\*McAllister, 1933:57)  
Iiililoa—1977 (Motteler, 1977a)  
Iiililoa—1982 (D.M.A., 1982)  
Iiililoa—1983 (Motteler, 1983)  
Iiililoa—1983 (\*Motteler, 1983:4)  
Iiililoa—1984 (U.S.G.S., 1984)

### Kahuahale o Kamohalii

Kahuahale o Kamohalii—1889? (Doc. 1126, undated-b)  
Kahuahale of Kamohoalii—1913 (\*Stokes, 1913:I:9)  
Kahuahale o Kamohalii—1913? (Stokes, undated-a)  
Kahuahale o Kamohoalii—1913? (Stokes, undated-c)  
Kahuahale o Kamohalii—1916 (Emory, 1916)  
Kahuahale Kamohalii—1917 (Stokes, 1917)  
Kahuahale o Kamohalii—1925? (Dranga, undated)  
Kahuahale-o-Kamohoalii—1933 (\*McAllister, 1933:57)  
Ka hua Hale o Ka Mooalii—undated (Ashdown, undated)  
Kahuahale o Kamohoalii—1983 (\*Motteler, 1983:5)  
Kahuahale—1983 (\*Napoka, 1983:2)

### Kaka

Kaka—1889? (Doc. 1126, undated-b)  
Puu o Kaka—undated (\*HI. K. 8)  
Kaka—1916 (Emory, 1916)  
Kaka—1917 (Stokes, 1917)  
Kaka—1977 (Motteler, 1977a)  
Kaka—1983 (\*Motteler, 1983:4)

### Ka lae o Kalawa

Ka lae o Kalawa—undated (\*HI. K. 8)

### Kalama

Kalama—1889? (Doc. 1126, undated-b)  
Kalama—1913? (Stokes, undated-a)  
Kalauia—1916 (Emory, 1916)  
Kalama—1917 (Stokes, 1917)  
Kalama Pt.—1926? (L.M.Z., undated)  
Kalama—1926 (U.S.G.S., 1926)  
Kalama—1929 (U.S.G.S., 1929)  
Kalama—1933 (\*McAllister, 1933:57)  
Kalauia—1933 (\*McAllister, 1933:57)  
Kalama—1947 (U.S.G.S., 1947)  
Kalama Pt.—1954 (U.S.N., 1954)  
Ka-lau-ia—1960 (\*Ashdown, 1960:5)  
Kalama—1970s (Tax Key, undated)  
Kalama—1977 (Motteler, 1977a)  
Kalauia—1977 (Motteler, 1977a)  
Kalama—1978 (Raposa, 1978)  
Kalama Point—1980 (29th Eng., 1980)  
Kalama—1982 (D.M.A., 1982)  
Kalama—1983 (Motteler, 1983)  
Kalama—1983 (\*Motteler, 1983:4)  
Kalauia—1983 (\*Motteler, 1983:4)  
Kalama—1984 (U.S.G.S., 1984)

### Kalama Bay

Kalama Bay—1889? (Doc. 1126, undated-b)  
Kalama B—1913? (Stokes, undated-a)  
? Kalama B—1913? (Stokes, undated-b)  
Ka Lama—1970s? (Ashdown, undated)

### Kalua o Kamohoalii

Kalua o Kamohoalii—1917 (Kauwekane, 1917a)  
Kalua o Kamohoalii—1929? (Unknown, undated)  
Kalua-o-Kamohoalii—1933 (\*McAllister, 1933:57)  
Kalua o Kamohoalii—1977 (Motteler, 1977a)  
Kalua o Kamohoalii—1982 (D.M.A., 1982)  
Kalua o Kamohoalii—1983 (Motteler, 1983)  
Kalua o Kamohoalii—1983 (\*Motteler, 1983:4)  
Kalua o Kamohoalii—1984 (U.S.G.S., 1984)

### Kamohio

Puu Koae Bay—1913 (\*Stokes, 1913:I:14)  
Waikahalulu—1913? (Stokes, undated-a)  
Kamohio—1913? (Stokes, undated-c)  
Kamohio Bay—1917 (Stokes, 1917)  
Kamohio Bay—1925? (Dranga?, undated)  
Kamohio Bay—1926? (L.M.Z., undated)  
Kamohio Bay—1926 (U.S.G.S., 1926)  
Kamohio Bay—1929 (U.S.G.S., 1929)  
Kamohio Bay—1933 (McAllister, 1933)  
Kamohio—1933 (\*McAllister, 1933:57)



## Appendixes

Kamohio Bay—1939 (Stearns, 1939)  
Kamohio Bay—1940 (Stearns, 1940a)  
Kamohio Bay—1947 (U.S.G.S., 1947)  
Kamohio Bay—1954 (U.S.N., 1954)  
Kamohio Bay—1965 (Klingensmith, 1965)  
Kamohio Bay—1970s (Tax Key, undated)  
Kamohia—1977 (Ashdown, 1977)  
Kamohio Bay—1977 (Motteler, 1977a)  
Kamohio Bay—1978 (Raposa, 1978)  
Kamohio Bay—1980 (29th Eng., 1980)  
Kamohio Bay—1982 (D.M.A., 1982)  
Kamohio Bay—1983 (Motteler, 1983)  
Kamohio Bay—1983 (\*Motteler, 1983:4)  
Kamohio Bay—1984 (U.S.G.S., 1984)

### Kamohio Koa

Kamohio Shrine—1975 (Ashdown, 1975a)  
Kamohia Shrine—1975 (Ashdown, 1975b)  
Kamohio Koa Site—1977 (Motteler, 1977a)  
Kamohio Koa Site—1982 (D.M.A., 1982)  
Kamohio Koa—1983 (\*Motteler, 1983:4)  
Kamohio Koa Site—1984 (U.S.G.S., 1984)

### Kanapou (Ili)

Kanapou—1889? (Doc. 1126, undated-a)  
Kanapou—1977 (Motteler, 1977a)

### Kanapou

Kanapuu—1839 (Kaphoni, 1839a)  
Kanapua—1839 (Lahainaluna, 1839)  
Kanapau—1843 (Wyld, 1843)  
Kanapau—1843 (Arrowsmith, 1843)  
Kanapou—1857 (\*Nahaoelua & Richardson, 1857:3)  
Kanapou B.—1886 (Wall, 1886)  
Keanapou—pre 1887 (\*Fornander, 1918:V:I:202-203)  
Keanapou—pre 1887 (\*Fornander, 1918:V:I:220-221)  
Keanapou—pre 1887 (\*Fornander, 1919:V:II:394-395)  
Kanapou Bay—1889? (Doc. 1126, undated-b)  
Beck's Cove—1905 (Rhodes, 1905)  
Kanapou Bay—1906 (Newton, 1906)  
Kanapou Bay—1911 (Podmore, 1911)  
Kanapou Bay—1913 (Forbes, 1913)  
Kanapou B.—1913 (\*Stokes, 1913:I:5,11)  
Kanapou B.—1913? (Stokes, undated-a)  
Kanapou B.—1913? (Stokes, undated-b)  
Kanapou Bay—1913? (Stokes, undated-c)  
Kanapou Bay 1917 (Stokes, 1917)  
Kanapou—1917 (Kauwekane, 1917a)  
Kanapou—1917 (Kauwekane, 1917b)  
Kanapou Bay—1925? (Dranga?, undated)  
Kanapou Bay—1926? (L.M.Z., undated)

Kanapou Bay—1926 (U.S.G.S., 1926)  
Kanapou Bay—1929 (U.S.G.S., 1929)  
Kanapou—1929? (Unknown, undated)  
Kanapou—1933 (\*McAllister, 1933:57)  
Kanapou—1933 (McAllister, 1933)  
Kanapou Bay—1939 (Stearns, 1939)  
Kanapou Bay—1940 (Stearns, 1940a)  
Kanapou Bay—1947 (U.S.G.S., 1947)  
Kanapou Bay—1954 (U.S.N., 1954)  
Kanapou Bay—1965 (Klingensmith, 1965)  
Kanapou Bay—1970s? (Tax Key, undated)  
Kanapou Bay—undated (Ashdown, undated)  
Kanapou Bay—1975 (Ashdown, 1975a)  
Kanapou—1977 (Motteler, 1977a)  
Beck Cove—1977 (Motteler, 1977a)  
Kanapou Bay—1978 (Raposa, 1978)  
Beck Cove—1978 (Raposa, 1978)  
Kanapou Bay—1980 (29th Eng., 1980)  
Obake Bay—1980 (\*Clark, 1980:134)  
Kanapou Bay—1982 (D.M.A., 1982)  
Kanapou Bay—1983 (Motteler, 1983)  
Kanapou Bay—1983 (\*Motteler, 1983:4)  
Kanapou Bay—1984 (U.S.G.S., 1984)

### Kaneloa

Kaneloa—1926? (L.M.Z., undated)  
Kaneloa—undated (\*Ashdown, undated)  
Waikahalulu nui—undated (Ashdown, undated)

### Kaneloa Gulch

Kaneloa Gulch—1926 (U.S.G.S., 1926)  
Kaneloa Gulch—1929 (U.S.G.S., 1929)  
Kaneloa—1933 (\*McAllister, 1933:57)  
Kaneloa Gulch—1947 (U.S.G.S., 1947)  
Kaneloa Gulch—1970s (Tax Key, undated)  
Kaneloa Gulch—1977 (Motteler, 1977)  
Kaneloa Gulch—1978 (Raposa, 1978)  
Kaneloa Gulch—1980 (29th Eng., 1980)  
Kaneloa Gulch—1982 (D.M.A., 1982)  
Kaneloa Gulch—1983 (Motteler, 1983)  
Kaneloa Gulch—1983 (\*Motteler, 1983:4)  
Kaneloa Gulch—1983 (\*Motteler, 1983:4)  
Kaneloa Gulch—1984 (U.S.G.S., 1984)

### Kanuku

Kunuka—1886? (Wall, 1886)  
Kunuka—1913? (Stokes, undated-a)  
Kanuku—1982 (D.M.A., 1982)  
Kalauia—1977 (Motteler, 1977a)  
Kanuku—1984 (U.S.G.S., 1984)

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### Kaohe

Kaohe—1917 (Kauwekane, 1917a)  
Kaohe—1917 (Kauwekane, 1917b)  
Kaohe—1933 (\*McAllister, 1933:57)  
Kaohi—undated (\*Ashdown, undated:57)  
Ka-ohi—1960 (\*Ashdown, 1960:5)  
Kaohi—1977 (Motteler, 1977a)  
Kaohi/Kaohe—1983 (\*Motteler, 1983:4)

### Kaukamaka Gulch

Kaukamaka Gulch—1982 (D.M.A., 1982)  
Kaukamaka GI—1983 (Motteler, 1983)  
Kaukamaka Gulch—1983 (\*Motteler, 1983:4)  
Kaukamaka Gulch—1984 (U.S.G.S., 1984)

### Kauka moku

Kauka moku—1917 (Kauwekane, 1917a)  
Kauka moku—1917 (Kauwekane, 1917b)  
Kaukamoku—1926? (L.M.Z., undated)  
Kauka moku—1929? (Unknown, undated)  
Kaukamoku—1933 (\*McAllister, 1933:58)  
Kaukamoku—1977 (Motteler, 1977a)  
Kaukamoku—1982 (D.M.A., 1982)  
Kaukamoku—1983 (Motteler, 1983)  
Kaukamoku—1983 (\*Motteler, 1983:5)  
Kaukamoku—1984 (U.S.G.S., 1984)

### Kaukamoku Gulch

Kaukamoku Gulch—1926 (U.S.G.S., 1926)  
Kaukamoku Gulch—1929 (U.S.G.S., 1929)  
Kaukamoku—1933 (\*McAllister, 1933:58)  
Kaukamoku Gulch—1947 (U.S.G.S., 1947)  
Kaukamoku Gulch—1970s (Tax Key, undated)  
Kaukamoku Gulch—1977 (Motteler, 1977a)  
Kaukamoku Gulch—1978 (Raposa, 1978)  
Kaukamoku Gulch—1982 (D.M.A., 1982)  
Kaukamoku Gulch—1983 (Motteler, 1983)  
Kaukamoku Gulch—1983 (\*Motteler, 1983:5)  
Kaukamoku Gulch—1984 (U.S.G.S., 1984)

### Kaukauapapa

Kaukauapapa Beach—1939 (Stearns, 1939)  
Kaukauapapa Beach—1977 (Motteler, 1977b)  
Kaukauapapa Beach—1983 (\*Motteler, 1983:5)  
\*Twin Sands Beach—1989 (\*Clark, 1989:127)

### Kaulana (Ili)

Kaulana—1889? (Doc. 1126, undated-a)  
Kaulana—1977 (Motteler, 1977a)

### Kaulana

Kaulana—1886 (Wall, 1886)  
Kaulana Bay—1889? (Doc. 1126, undated—b)  
Kaulana—1902 (\*Thrum, 1902:121)  
Kaulana—1911? (Conrad, undated)  
Kaulana B—1913? (Stokes, undated-a)  
Kaulana Bay—1913? (Stokes, undated-c)  
Kaulana Bay—1917 (Stokes, 1917)  
Kaulana—1917 (Kauwekane, 1917a)  
Kaulana—1917 (Kauwekane, 1917b)  
Kaulana Bay—1925? (Dranga, undated)  
Kaulana—1926? (L.M.Z., undated)  
Kaulana—1926 (U.S.G.S., 1926)  
Kaulana—1929 (U.S.G.S., 1929)  
Kaulana—1933 (\*McAllister, 1933:57)  
Kaulana—1947 (U.S.G.S., 1947)  
Kaulana—1970s (Tax Key, undated)  
Kai papau Bay—1970s? (Ashdown, undated)  
Kaulama Pt and Bay—1975 (Ashdown, 1974a)  
Kaulana Bay—1977 (Ashdown, 1977)  
Kaulana—1977 (Motteler, 1977a)  
Kaulana—1978 (Raposa, 1978)  
Kaulana—1982 (D.M.A., 1982)  
Kaulana—1983 (Motteler, 1983)  
Kaulana—1983 (\*Motteler, 1983:5)  
Kaulana—1984 (U.S.G.S., 1984)

### Kaulana Gulch

Kaulana Gulch—1913 (Stokes, undated-b)  
Kaulana Gulch—1926 (U.S.G.S., 1926)  
Kaulana Gulch—1929 (U.S.G.S., 1929)  
Kaulana Gulch—1947 (U.S.G.S., 1947)  
Kaulana Gulch—1970s (Tax Key, undated)  
Kaulana Gulch—1977 (Motteler, 1977a)  
Kaulana Gulch—1978 (Raposa, 1978)  
Kaulana Gulch—1980 (29th Eng., 1980)  
Kaulana Gulch—1982 (D.M.A., 1982)  
Kaulana Gulch—1983 (Motteler, 1983)  
Kaulana Gulch—1983 (\*Motteler, 1983:5)  
Kaulana Gulch—1984 (U.S.G.S., 1984)

### Kaulana-nui

Kaulana-nui—1977 (\*Ashdown, 1977:4)

### Kaulana Point

Kaulana Pt.—1954 (U.S.N., 1954)  
Kaulama Pt and Bay—1975 (Ashdown, 1975a)  
Kaulana Point—1980 (29th Eng., 1980)



## Kealaikahiki (Ili)

Kealaikahiki—1886 (Wall, 1886)  
Kealaikahiki—1889? (Doc. 1126, undated-a)  
Kealaikahiki—1977 (Motteler, 1977a)

## Keana a ke Keiki

Keana a ke Keiki—1889? (Doc. 1126, undated-b)  
Keana a ke Keiki—1913? (Stokes, undated-a)  
Keana a Keiki—1916 (Emory, 1916)  
Keanaake Keiki—1917 (Stokes, 1917)  
Keana Keiki—1917 (Kauwekane, 1917a)  
Keana Keiki—1917 (Kauwekane, 1917b)  
Keanaake keiki—1925? (Dranga, undated)  
Ke anakeiki—1929? (Unknown, undated)  
Keanaakekeiki—1933 (\*McAllister, 1933:57)  
Keana Keiki—1977 (Motteler, 1977a)  
Keana Keiki—1982 (D.M.A., 1982)  
Keana Keiki—1983 (Motteler, 1983)  
Keana Keiki—1983 (\*Motteler, 1983:5)  
Keana Keiki—1984 (U.S.G.S., 1984)

## Keoneuli

Keoneuli—undated (\*Ashdown, undated:1)  
Keoneuli—1977 (Motteler, 1977a)  
Keoneuli—1982 (D.M.A., 1982)  
Keoneuli—1983 (Motteler, 1983)  
Keoneuli—1983 (\*Motteler, 1983:4)  
Keoneuli—1984 (U.S.G.S., 1984)

## Kii

Kii—1917 (Kauwekane, 1917a)  
Kii—1917 (Kauwekane, 1917b)  
Kii—1929? (Unknown, undated)  
Kii—1977 (Motteler, 1977a)  
Kii—1982 (D.M.A., 1982)  
Kii—1983 (Motteler, 1983)  
Kii—1983 (\*Motteler, 1983:5)  
Kii—1984 (U.S.G.S., 1984)

## Koele

Koele—1977 (\*Ashdown, 1977:5)

## Kohola Bay

Kohola Bay—1977 (\*Ashdown, 1977:3)

## Kuheia (Ili)

Kuheia—1889? (Doc. 1126, undated-a)  
Kuheia—1977 (Motteler, 1977a)

## Kuheia

Kuheia—1857 (\*Nahaoelua & Richardson, 1857:3)  
Kuheia Bay—1889? (Doc. 1126, undated-b)  
Conradt's Cove—1905 (Rhodes, 1905)  
Kuheia (Conradt's Cove)—1911? (Conradt, undated)  
Kuheia B—1913? (Stokes, undated-a)  
?Kaulana Bay—1913? (Stokes, undated-b)  
Kuheia Bay—1913? (Stokes, undated-c)  
Kuheia Bay—1916 (Emory, 1916)  
Conradt's Cove—1917 (Iao, 1917)  
Kuheia Bay—1917 (Stokes, 1917)  
Kuheia—1917 (Kauwekane, 1917a)  
Kuheia—1917 (Kauwekane, 1917b)  
Kuheia Bay—1925? (Dranga?, undated)  
Kuheia—1926? (L.M.Z., undated)  
Kuheia—1926 (U.S.G.S., 1926)  
Kuheia—1929 (U.S.G.S., 1929)  
Conradt's Cove—1929? (Unknown, undated)  
Kuheia Bay—1933 (McAllister, 1933)  
Kuheia—1933 (\*McAllister, 1933:57)  
Kuheia—1939 (Stearns, 1939)  
Kuheia—1940 (Stearns, 1940a)  
Kuheia—1947 (U.S.G.S., 1947)  
Kuheia Bay—1954 (U.S.N., 1954)  
Kuheia—1970s (Tax Key, undated)  
Ku Hee ia—1975 (Ashdown, 1975a)  
Kuheia Bay—1977 (Ashdown, 1977)  
Kuheia Bay—1977 (Motteler, 1977a)  
Kuheia Bay—1978 (Raposa, 1978)  
Kuheia Bay—1980 (29th Eng., 1980)  
Kuheia Bay—1982 (D.M.A., 1982)  
Kuheia Bay—1983 (Motteler, 1983)  
Kuheia Bay—1983 (\*Motteler, 1983:5)  
Kuheia—1983 (\*Motteler, 1983:5)  
Kuheia Bay—1984 (U.S.G.S., 1984)  
Pedro's Bay—1983 (\*Napoka, 1983:4)  
Pedro Bay—1989 (\*Clark, 1989)

## Kuia Shoal

Kuia Shoal—1841 (\*Wilkes, 1861:293)  
Kuia Shoal—1977 (Motteler, 1977a)  
Kuia Shoal—1983 (\*Motteler, 1983:5)  
Kuia Shoal—1989 (Clark, 1989:127)

## Kula o Huina

Kula o Huina—1977? (\*Ashdown, undated:1)  
Kula o Huina—1979 (\*Ashdown, 1979:47)

## Restoring a Cultural Treasure

### Kunaka (Ili)

Kunaka—1889? (Doc. 1126, undated-a)  
Kunaka—1977 (Motteler, 1977-a)

### Ku-na-na

Ku-na-na—1960 (\*Ashdown, 1960:5)

### Lae Hanei (or Hanai)

Lae Hanei (or Hanai)—1970s (\*Ashdown, undated:3)

### Lae Hilu Kea

Hilu kea—1970s (Ashdown, undated)  
Lae Hilu Kea—1975 (Ashdown, 1975a)  
Lae o Hilukea—1977 (Motteler, 1977a)  
Lae o Hilukea—1982 (D.M.A., 1982)  
Lae o Hilukea—1983 (Motteler, 1983:5)  
Lae o Hilukea—1983 (\*Motteler, 1983:5)  
Lae o Hilukea—1984 (U.S.G.S., 1984)

### Lae Hilu ula

Lae Hilu ula—1975 (Ashdown, 1975a)  
Hiluula—1975 (\*Ashdown, 1976)  
Lae Olohia—1970s? (\*Ashdown, undated:3)  
Lae Olohia—1977 (\*Ashdown, 1977:3)  
Lae o Hiluula—1977 (Motteler, 1977a)  
Lae o Hiluula—1982 (D.M.A., 1982)  
Lae o Hiluula—1983 (Motteler, 1983)  
Lae o Hiluula—1983 (\*Motteler, 1983:5)  
Laeolohia—1983 (\*Napoka, 1983:3)  
Lae o Hiluula—1984 (U.S.G.S., 1984)

### Lae o Halona

Halona cape—1889? (Doc. 1126, undated-b)  
Kanapou Pt.—1911? (Conradt, undated)  
Halona Pt.—1913 (Forbes, 1913)  
Halona Pt.—1913? (Stokes, undated-a)  
Halona cape—1913? (Stokes, undated-a)  
Kanapou Pt.—1913? (Stokes, undated-c)  
Ka Lae o Halona—1916 (Emory, 1916)  
Halona Pt.—1917 (Stokes, 1917)  
Halona Cape—1925? (Dranga?, undated)  
Halona Pt—1926? (L.M.Z., undated)  
Lae o Halona—1926 (U.S.G.S., 1926)  
Lae o Halona—1929 (U.S.G.S., 1929)  
Lae o Halona—1933 (\*McAllister, 1933:57)  
Lae o Halona—1947 (U.S.G.S., 1947)  
Halons[?] Pt.—1954 (U.S.N., 1954)  
Lae o Halona—1965 (Klingensmith, 1965)  
Lae o Halona—1970s (Tax Key, undated)  
Lae Halona—undated (Ashdown, undated)

Halona Pt.—undated (Ashdown, undated)  
Lae o Halona—1975 (Ashdown, 1975a)  
Lae o Halona—1977 (Ashdown, 1977)  
Lae o Halona—1977 (Motteler, 1977a)  
Halona Pt.—1978 (Raposa, 1978)  
Halona Point—1980 (29th Eng., 1980)  
Lae o Halona—1982 (D.M.A., 1982)  
Lae o Halona—1983 (Motteler, 1983)  
Lae o Halona—1983 (\*Motteler, 1983:4)  
Lae o Halona—1984 (U.S.G.S., 1984)

### Lae o Honokoa

Hanakoa Pt.—1911? (Conradt, undated([?])  
Honokoa Pt.—1913? (Stokes, undated-c)  
Honokoa Pt.—1917 (Stokes, 1917)  
Lae o honokoa—1917 (Kauwekane, 1917a)  
Lae o Honokoa—1917 (Kauwekane, 1917b)  
Lae o Honokoa—1929? (Unknown, undated)  
Honokou Pt—1970s? (Ashdown, undated-a)  
Lae Hono kou—1970s (Ashdown, undated-b)  
Lae Hono kou—1975 (Ashdown, 1975)  
Lae Hono Kou (or Koa)—1977 (Ashdown, 1977)  
Lae o Honokoa—1977 (Motteler, 1977a)  
Lae o Honokoa—1982 (D.M.A., 1982)  
Lae o Honokoa—1983 (\*Motteler, 1983:5)  
Lae o Honokoa—1984 (U.S.G.S., 1984)

### Lae o Kaka

Halona Pt.—1886? (Wall, 1886)  
Lae o Kaka—1889? (Doc. 1126, undated-b)  
Halona Pt.—1911 (Podmore, 1911)  
Lae o Kaka—1913? (Stokes, undated-a)  
Halona Pt—1913? (Stokes, undated-b)  
Halona Pt.—1913? (Stokes, undated-c)  
Lae o Kaka—1913? (Stokes, undated-a)  
Lae o Kaka—1916 (Emory, 1916)  
Halona Pt.—1917 (Stokes, 1917)  
Lae o Kaka—1917 (Stokes, 1917)  
Lae o Kaka—1917 (Kauwekane, 1917a)  
Lae o Kaku?a—1917 (Kauwekane, 1917b)  
Lae o Kaka—1925? (Dranga?, undated)  
Kaka Pt.—1926? (L.M.Z., undated)  
Lae o Kaka—1926 (U.S.G.S., 1926)  
Lae o Kaka—1929 (U.S.G.S., 1929)  
Kaku—1929? (Unknown, undated)  
Lae o Kaka—1933 (McAllister, 1933)  
Lae o Kaka—1933 (\*McAllister, 1933:57)  
Lae o Kaka—1947 (U.S.G.S., 1947)  
Kaka Pt.—1954 (U.S.N., 1954)  
Lae o Kaka—1965 (Klingensmith, 1965)  
Lae o Kaka—1970s (Tax Key, undated)  
Koko—undated (Ashdown, undated)



## Appendixes

Lae o Kaka—1975 (Ashdown, 1975a)  
 Lae o Kaka—1977 (Ashdown, 1977)  
 Lae o Kaka—1977 (Motteler, 1977a)  
 Kaka Pt.—1978 (Raposa, 1978)  
 Kaka Point—1980 (29th Eng., 1980)  
 Lae o Kaka—1982 (D.M.A., 1982)  
 Lae o Kaka—1983 (Motteler, 1983)  
 Lae o Kaka—1983 (\*Motteler, 1983:4)  
 Lae o Kaka—1984 (U.S.G.S., 1984)

### Lae of Kalama

Ka Lama Pt.—1970s? (Ashdown, undated)  
 Lae o Kalama—1977 (Motteler, 1977a)  
 Lae ka Lama—1983 (Motteler, 1983)  
 Lae ka Lama—1983 (\*Motteler, 1983:5)

### Lae o Kaule

Kaule cape—1889? (Doc. 1126, undated-b)  
 Ka lae o Kaule—undated (\*HI. K.8)  
 Kalae oka ule—1911? (Conradt, undated)  
 Kaule cape—1913? (Stokes, undated-a)  
 Kaule cape—1913? (Stokes, undated-c)  
 Kaule (lae)—1916 (Emory, 1916)  
 Ka Ule Cape—1917 (Stokes, 1917)  
 Lae o Kaule—1917 (Kauwekane, 1917a)  
 Lae o Kaule—1917 (Kauwekane, 1917b)  
 Kaule Cape—1925? (Dranga?, undated)  
 Ule Pt.—1926? (L.M.Z., undated)  
 Lae o ka Ule—1926 (U.S.G.S., 1926)  
 Lae o ka Ule—1929 (U.S.G.S., 1929)  
 Lae o Kaule—1929? (Unknown, undated)  
 Lae o ka Ule—1933 (McAllister, 1933)  
 Lae o ka Ule—1933 (\*McAllister, 1933:57)  
 Lae o ka Ule—1947 (U.S.G.S., 1947)  
 Ule Pt.—1954 (L.M.Z., undated)  
 Lae o ka Ule—1970s? (Tax Key, 1970s?)  
 Lae o ka ule—1975 (Ashdown, 1975a)  
 Lae and Pohaku Ule—1977 (Ashdown, 1977)  
 Lae o ka Ule—1977 (Motteler, 1977a)  
 Ule Pt.—1978 (Raposa, 1978)  
 Lae o ka Ule—1982 (D.M.A., 1982)  
 Lae-o-ka-ule—1983 (\*Napoka, 1983:3)  
 Laeonanahoa—1983 (\*Napoka, 1983:3)  
 Lae o ka Ule—1983 (\*Motteler, 1983)  
 Lae o ka Ule—1983 (\*Motteler, 1983:4)  
 Pohaku Ule—1983 (\*Motteler, 1983:4)  
 Lae o ka Ule—1984 (U.S.G.S., 1984)

### Lae o Kealaikahiki

L Kealaikahiki—1834 (Kalama, 1834)  
 L Kealaikahiki—1836 (Kalama, 1836)  
 L Kealaikahiki—1839 (Kapohoni, 1839a)

L Kealaikahiki—1839 (Lahainaluna, 1839)  
 L Kealaikahiki—1839? (Lahainaluna, undated)  
 C. Kealaikanihi—1840 (A.B.C.F.M., 1840)  
 Ke-ala-i-Kahiki—1840s (\*Malo, 1951:7)  
 Kealaikahiki Pt.—1841 (Wilkes, 1841)  
 L Kealaikahiki—1843? (Lahainaluna, undated)  
 Cape Kealaikahiki—1843 (Lahainaluna, 1843)  
 L Kealaikahiki—1843? (Lahainaluna, undated)  
 Cape Kealaikahiki—1843 (Dibble, 1843)  
 C. Kealaikahiki—1843 (Wyld, 1843)  
 C. Kealaikahiki—1843 (Arrowsmith, 1843)  
 Ka-lae-i-Kahiki—pre 1887 (\*Fornander, 1919-1920:VI:281)  
 Kealaikahiki—1875 (\**Ka Lahui Hawaii*, 12/23/1875: p. 2, c. 2)  
 Kealaikahiki—1875 (\**Ka Lahui Hawaii*, 12/30/1875: p.4, c.2)  
 Ka lae o Kealaikahiki—undated (HI. K.8)  
 Kealaikahiki Pt—1876 (Giles, 1876)  
 Kealaikahiki Pt—1886 (Wall, 1886)  
 Lae Paki—1886 (Wall, 1886)  
 Keala i Kahiki cape—1889? (Doc. 1126, undated)  
 Lae o Paki—1902 (\*Kahaulelio, 1902:17)  
 Lae o Kealaikahiki—1902 (\*Kahaulelio, 1902:29)  
 Kealaikahiki—1902 (\*Alexander, 1902:375)  
 Kealaikahiki Pt.—1905 (Rhodes, 1905)  
 Kealaikahiki Pt.—1905 (Pratt, 1905)  
 Kealaikahiki Pt.—1906 (Newton, 1906)  
 Kealaikahiki Point—1911 (Podmore, 1911)  
 Kealaikahiki Pt.—1913 (Forbes, 1913)  
 Kealaikahiki—1913 (\*Stokes, 1913:I: ) [?]  
 Kealaikahiki Pt—1913? (Stokes, undated-a)  
 Kealaikahiki Cape—1913? (Stokes, undated-c)  
 [?]Kealaikahiki cape—1916 (Emory, 1916)  
 Kaelaihihiki Point—1917 (Iao, 1917)  
 [?] Lae Paki—1917 (Stokes, 1917)  
 [?] Kaelaihihiki Point—1925? (Draga, undated)  
 Lae o Kealaikahiki—1926 (U.S.G.S., 1926)  
 Lae o Kealaikahiki—1929 (U.S.G.S., 1929)  
 Lae o Kealaikahiki—1933 (\*McAllister, 1933:58)  
 [?] 1939 (Bryan, 1939)  
 Lae o Kealaikahiki—1947 (U.S.G.S., 1947)  
 Kealaikahiki Pt.—1954 (U.S.N., 1954)  
 Lae o Kealaikahiki—1965 (Klingensmith, 1965)  
 Lae o Kealaikahiki—1970s (Tax Key, undated)  
 Kealaikahiki Pt—1970s? (Ashdown, undated-a)  
 Ke ala i Kahiki—1975 (Ashdown, 1975)  
 Lae Keala-I-Kahiki—1977 (Ashdown, 1977)  
 Lea o Kealaikahiki—1977 (Motteler, 1977a) [?]  
 Kealaikahiki Pt.—1978 (Raposa, 1978)  
 Kealaikahiki Point—1980 (29th Eng., 1980)  
 Lae o Kealaikahiki—1982 (D.M.A., 1982)  
 Lae o Kealaikahiki—1983 (Motteler, 1983)

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Lae o Kealaikahiki—1983 (\*Motteler, 1983:5)  
Lae o Kealaikahiki—1984 (U.S.G.S., 1984)  
Lae o Kealaikahiki—1984 (Motteler, 1984)

### Lae o Kuakaiwa

Lae o Kuakaiwa—1889? (Doc. 1126, undated-b)  
Lae o Kuakaiwa—1913? (Stokes, undated-a)  
? Lae o Kuakaiwa—1913? (Stokes, undated-b)  
Lae o Kuakaiwa—1917 (Stokes, 1917)  
Lae o Kamohio—1917 (Kauwekane, 1917a)  
Lae o Kamohio—1917 (Kauwekane, 1917b)  
Lae o Kuakaiwa—1925? (Dranga?, undated)  
Kuakaiwa Pt.—1926? (L.M.Z., undated)  
Lae o Kuakaiwa—1926 (U.S.G.S., 1926)  
Lae o Kuakaiwa—1929 (U.S.G.S., 1929)  
Lae o Kamohio—1929? (Unknown, undated)  
Lae o Kuakaiwa—1933 (McAllister, 1933)  
Lae o Kuakaiwa—1933 (\*McAllister, 1933:57)  
Lae o Kuakaiwa—1947 (U.S.G.S., 1947)  
Kuakaiwa Pt.—1954 (U.S.N., 1954)  
Lae o Kuakaiwa—1970s (Tax Key, undated)  
Lae o Ku aka iwa—1975 (Ashdown, 1975a)  
Lae o Kuakaiwa—1977 (Ashdown, 1977)  
Lae o Kuakaiwa—1977 (Motteler, 1977a)  
Kuakaiwa Pt.—1978 (Raposa, 1978)  
Kuakaiwa Point—1980 (29th Eng., 1980)  
Lae o Kuakaiwa—1982 (D.M.A., 1982)  
Lae o Kuakaiwa—1983 (Motteler, 1983)  
Lae o Kuakaiwa—1983 (\*Motteler, 1983:4)  
Lae o Kuakaiwa—1984 (U.S.G.S., 1984)

### Lae o Kukui

Kuikui Pt.—1886? (Wall, 1886)  
Lae o Kukui—1902 (\*Kahaulelio, 1902:17)  
Kukui Pt.—1911 (Podmore, 1911)  
Kui Kui Pt.—1911? (Conradt, undated)  
Kukui Pt.—1913 (Forbes, 1913)  
Kuikui Pt.—1913? (Stokes, undated-a)  
Kuikui Pt.—1913? (Stokes, undated b)  
Kuikui Pt.—1913? (Stokes, undated c)  
Kuikui Pt.—1917 (Stokes, 1917)  
Lae o Kukui—1917 (Kauwekane, 1917a)  
Lae o Kukui—1917 (Kauwekane, 1917b)  
Kuikui Point—1925? (Dranga?, undated)  
Kuikui Pt.—1926? (L.M.Z., undated)  
Lae o Kuikui—1926 (U.S.G.S., 1926)  
Lae o Kuikui—1929 (U.S.G.S., 1929)  
Lae o Kukui—1929? (Unknown, undated)  
Lae o Kuikui—1933 (McAllister, 1933)  
Lae o Kuikui—1933 (\*McAllister, 1933:58)  
Lae o Kuikui—1935 (\*Coulter, 1935:76)  
[?]-1939 (Bryan, 1939)

Lae o Kuikui—1947 (U.S.G.S., 1947)  
Kuikui Pt.—1954 (U.S.N., 1954)  
Lae o Kuikui—1970s (Tax Key, undated)  
Lae o Kukui—1975 (Ashdown, 1975a)  
Lae o Kukui—1977 (Motteler, 1977a)  
Cape Kuikui—1978 (Raposa, 1978)  
Kuikui Point—1980 (29th Eng., 1980)  
Lae o Kukui—1982 (D.M.A., 1982)  
Lae o Kukui—1982 (Motteler, 1983)  
Lae o Kukui—1983 (\*Motteler, 1983:4)  
Lae o Kuikui—1983 (\*Motteler, 1983:4)  
Lae o Kukui—1984 (U.S.G.S., 1984)

### Laeokukui (Fishing Ground)

Laeokukui—1902 (\*Kahaulelio, 1902:28)

### Lae o Mano

Lae o Mano—1975 (Ashdown, 1975a)

### Lae o na Kohola

na Lae o Kohola—1970s? (Ashdown, undated)  
Na Lae Kohola—1975 (Ashdown, 1975a)  
na lae Kohola—1977 (Ashdown, 1977)  
Lae o Na Kohola—1977 (Motteler, 1977a)  
Lae o na Kohola—1982 (D.M.A., 1982)  
Lae o Na Kohola—1983 (Motteler, 1983)  
Lae o Na Kohola—1983 (\*Motteler, 1983)  
Lae o Na Kohola—1984 (U.S.G.S., 1984)

### Lae Paki

Lae Paki—1933 (\*McAllister, 1933:57)  
Lae Paki—undated (Ashdown, undated)  
Lae Paki—1975 (Ashdown, 1975a)  
Lae Paki—1975 (Ashdown, 1975b)  
Lae Paki—1977 (Ashdown, 1977)  
Lae Paki—1977 (Motteler, 1977a)  
Lae Paki—1982 (D.M.A., 1982)  
Lae Paki—1983 (Motteler, 1983)  
Lae Paki—1983 (\*Motteler, 1983:5)  
Lae Paki—1984 (U.S.G.S., 1984)

### Laehinahina

Laehinahina—1983 (Napoka, 1983:3)

### Laepaki (Fishing Ground)

Laepaki—1902 (\*Kahaulelio, 1902:30)

### La-la-o

La-la-o—1960 (\*Ashdown, 1960:6)



## Appendixes

### Lua ka Ulua (Fishing Ground)

- Lua ka Ulua—1970s (Ashdown, undated)
- Lua ka Ulua—1977 (Motteler, 1977a)
- Lua ka Ulua—1983 (Motteler, 1983)
- Lua ka Ulua—1983 (\*Motteler, 1983:5)

### Lua Kealia Lalo

- (crater) Kealia Lalo—1911? (Conradt, undated)
- Crater Kealia Lalo—1913? (Stokes, undated-c)
- Kealia wai—1917 (Kauwekane, 1917a)
- Kealia wai—1917 (Kauwekane, 1917b)
- Kealialolo Crater—1925? (Dranga?, undated)
- Lua Kealialalo—1926? (L.M.Z., undated)
- Lua Kealialalo—1926 (U.S.G.S., 1926)
- Lua Kealialalo—1929 (U.S.G.S., 1929)
- Kealia wai—1929 (Unknown, undated)
- Lua Kealialalo—1933 (\*McAllister, 1933:58)
- Lua Kealialalo—1939 (Stearns, 1939)
- Lua Kealialalo—1947 (U.S.G.S., 1947)
- Kealialalo Crater—1954 (U.S.N., 1954)
- Lua Kealialalo—1977 (Motteler, 1977a) [?]
- Kealialalo Crater—1978 (Raposa, 1978)
- Kealialalo Crater—1980 (29th Eng., 1980)
- Lua Kealialalo—1982 (D.M.A., 1982)
- Lua Kealialalo—1983 (Motteler, 1983)
- Lua Kealialalo—1983 (\*Motteler, 1983:5)
- Lua Kealialalo—1984 (U.S.G.S., 1984)

### Lua Kealia Luna

- (crater) Kealia muna—1911? (Conradt, undated)
- Kealia—1913? (Stokes, undated-a)
- Crater Kealia Luna—1913? (Stokes, undated-c)
- Kealia Luna—1917 (Stokes, 1917)
- Kealia—1917 (Kauwekane, 1917a)
- Lua Kealialuna—1926? (L.M.Z., undated)
- Lua Kealialuna—1926 (U.S.G.S., 1926)
- Lua Kealialuna—1929 (U.S.G.S., 1929)
- Kealia—1929? (Unknown, undated)
- Lua Kealialuna—1933 (\*McAllister, 1933:58)
- Lua Kealialuna—1939 (Stearns, 1939)
- Lua Kealialuna—1947 (U.S.G.S., 1947)
- Kealialuna Crater—1954 (U.S.N., 1954)
- Kealia—1975 (Ashdown, 1975b)
- Kealia—1977 (Ashdown, 1977)
- Lua Kealialuna—1977 (Motteler, 1977a)
- Kealialuna Crater—1978 (Raposa, 1978)
- Kealialuna Crater—1980 (29th Eng., 1980)
- Lua Kealialuna—1982 (D.M.A., 1982)
- Lua Kealialuna—1983 (Motteler, 1983)
- Lua Kealialuna—1983 (\*Motteler, 1983:4)
- Lua Kealialuna—1984 (U.S.G.S., 1984)

### Lua Keaualalo

- Keaualalo—undated (Ashdown, undated)
- Kea ulla lalo—1975 (Ashdown, 1975a)
- Keaualalo—1977 (Ashdown, 1977)
- Lua Keaualalo—1982 (D.M.A., 1982)
- Lua Keaualalo—1984 (U.S.G.S., 1984)

### Lua Keaualuna

- Keaualuna—1977 (Ashdown, 1977)
- Lua Keaualuna—1982 (D.M.A., 1982)
- Lua Keaualuna—1984 (U.S.G.S., 1984)

### Lua Moaula

- Moaula pit (lua)—1889? (Doc. 1126, undated-b)
- Moaula pit—1913? (Stokes, undated-a)
- Kaluamakika Crater—1925? (Dranga?, undated)
- Lua Makikoe—1926? (L.M.Z., undated)
- Lua Makika—1926 (U.S.G.S., 1926)
- Lua Makika—1929 (U.S.G.S., 1929)
- Lua Makika—1933 (\*McAllister, 1933:58)
- Lua Makika—1939 (Stearns, 1939)
- Lua Makika—1940 (Stearns, 1940a)
- Lua Makika—1947 (U.S.G.S., 1947)
- Lua Makika—1954 (U.S.N., 1954)
- Lua Makika—1965 (Klingensmith, 1965)
- Lua Makika—1970s? (Tax Key, undated)
- Makika—1975 (Ashdown, 1975a)
- Makika—1977 (Ashdown, 1977)
- Lua Moaula—1977 (Motteler, 1977a)
- Lua Makika—1977 (Motteler, 1977a)
- Makika Crater—1978 (Raposa, 1978)
- Lua Makika—1980 (29th Eng., 1980)
- Lua Makika—1982 (D.M.A., 1982)
- Lua Makika—1983 (Motteler, 1983)
- Lua Makika—1983 (\*Motteler, 1983:4)
- Lua Makika—1984 (U.S.G.S., 1984)

### Luaokaolua

- Luaokaolua—1983 (\*Napoka, 1983:3)

### Makaalae

- Makaalae—1911? (Conradt, undated)
- Makaalae—1913? (Stokes, undated-c)
- Makaalae—1917 (Stokes, 1917)
- Makaalae—1925? (Dranga?, undated)
- Makaalae Pt.—1926? (L.M.Z., undated)
- Makaalae—1926 (U.S.G.S., 1926)
- Makaalae—1929 (U.S.G.S., 1929)
- Makaalae—1933 (\*McAllister, 1933:58)
- Makaalae—1947 (U.S.G.S., 1947)

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Makaalae Pt.—1954 (U.S.N., 1954)  
Makaalae—1965 (Klingensmith, 1965)  
Makaalae—1970s (Tax Key, undated)  
Maka alae Pt—1970s? (Ashdown, undated)  
Lae Maka alae—1975 (Ashdown, 1975a)  
Lae Maka alae—1975 (Ashdown, 1975b)  
Makaalae—1977 (Ashdown, 1977)  
Makaalae—1977 (Motteler, 1977a)  
Makaalae—1978 (Raposa, 1978)  
Makaalae Point—1980 (29th Eng., 1980)  
Makaalae—1982 (D.M.A., 1982)  
Makaalae—1983 (Motteler, 1983)  
Makaalae—1983 (\*Motteler, 1983:5)  
Makaalae—1984 (U.S.G.S., 1984)

### Makakilo

Makakilo—1977 (Ashdown, 1977)

### Makalii

Makalii—1977 (Ashdown, 1977)

### Naalapa (Ili)

Naalapa—1889? (Doc. 1126, undated-a)  
Naalapa—1977 (Motteler, 1977a)

### Na Koa Lua (Fishing Ground)

Na Koa Lua—1977 (Ashdown, 1977)

### Na One lua

Na One lua—1977 (Ashdown, 1977)

### O awa palua

ahupu iki—1911? (Conrad, undated)  
? Kalama B.—1913? (Stokes, undated-b)  
Ahupu B.—1913? (Stokes, undated-b)  
Ahupuiki—1913? (Stokes, undated-c)  
Ahupuiki Bay—1913? (Stokes, undated-c)  
Ahupuiki Bay—1917 (Stokes, 1917)  
O awa palua—1917 (Kauwekane, 1917a)  
Oawa palua—1917 (Kauwekane, 1917b)  
Ahupuu Bay—1925? (Dranga?, undated)  
Oawa palua—1929? (Unknown, undated)  
Ka Lama—1970s? (Ashdown, undated)  
Oawa palua—1977 (Motteler, 1977a)  
Oawapalua—1983 (\*Motteler, 1983:5)

### O awa panini

O awa panini—1917 (Kauwekane, 1917a)  
Oawa panini—1917 (Kauwekane, 1917b)  
Oawa panini—1929? (Unknown, undated)

Kai Olohia—1970s (Ashdown, undated-a)  
Kai Olohia—1977 (Motteler, 1977a)  
Kai Olohia—1983 (\*Motteler, 1983:5)  
Oawapanini—1983 (\*Motteler, 1983:5)

### O awa wahie

O awa wahie—1917 (Kauwekane, 1917a)  
Oawa wahie—1917 (Kauwekane, 1917b)  
Oawa wahie—1929? (Unknown, undated)  
Oawawahie—1982 (D.M.A., 1982)  
Oawawahie—1933 (\*McAllister, 1933:58)  
Oawawahie—1982 (D.M.A., 1982)  
Oawawahie—1983 (Motteler, 1983)  
Oawawahie—1983 (\*Motteler, 1983:4)  
Oawawahie—1984 (U.S.G.S., 1984)

### Olohia

Olohia—1976 (\*Ashdown, 1976:1)  
Olohia Gulch—1977 (Motteler, 1977a)  
Olohia Gulch—1982 (D.M.A., 1982)  
Olohia Gulch—1983 (\*Motteler, 1983:5)  
Olohia Gulch—1984 (U.S.G.S., 1984)

### Pali

Pali—1911? (Conrad, undated)  
Pali—1913? (Stokes, undated-c)

### Pali o ka Lapa Kea

Pali o Kalapakea—1889? (Doc. 1126, undated-b)  
Pali o Kalapakea—1913? (Stokes, undated-a)  
Pali o Kalaupakea—1916 (Emory, 1916)  
Lapa Kea—1917 (Kauwekane, 1917a)  
Lapa Kea—1917 (Kauwekane, 1917b)  
Pali o Kalapakea—1917 (Stokes, 1917)  
Pali o Kalapakea—1925? (Dranga?, undated)  
Lapa Kea—1929? (Unknown, undated)  
Lapa Kea—1933 (\*McAllister, 1933:57)  
Pali o Kalapa—undated (Ashdown, undated)  
Pali o Kalapu—1975 (Ashdown, 1975a)  
Pali o Ka Lapa—1977 (Ashdown, 1977)  
Pali o Kalapakea—1977 (Motteler, 1977a)  
Pali o Kalapakea—1982 (D.M.A., 1982)  
Pali o Kalapakea—1983 (Motteler, 1983)  
Pali o Kalapakea—1983 (\*Motteler, 1983:4)  
Pali-o-lapa-kea—1983 (\*Napoka, 1983:3)  
Pali o Kalapakea—1984 (U.S.G.S., 1984)

### Papaka (Ili)

Papaka—1889? (Doc. 1126, undated-a)  
Papakanui—1977 (Motteler, 1977a)  
Papakaiki—1977 (Motteler, 1977a)



## Papaka

Papaka bay—1889? (Doc. 1126, undated-b)  
 Papakanui—1911 (Conradt, undated)  
 Papaka B—1913? (Stokes, undated-a)  
 Papakanui Bay—1913? (Stokes, undated-c)  
 Papakanui Bay—1917 (Stokes, 1917)  
 Papaka—1917 (Kauwekane, 1917a)  
 Papaka—1917 (Kauwekane, 1917b)  
 Papaka Bay—1925? (Dranga?, undated)  
 Papaka—1926? (L.M.Z., undated)  
 Papakanui—1926 (U.S.G.S., 1926)  
 Papakanui—1929 (U.S.G.S., 1929)  
 Papakanui—1933 (\*McAllister, 1933:58)  
 Papakanui—1947 (U.S.G.S., 1947)  
 Papakanui—1965 (Klingensmith, 1965)  
 Papakanui—1970s (Tax Key, undated)  
 Papakanui—1975 (Ashdown, 1975)  
 Papakanui—1977 (Ashdown, 1977)  
 Papakanui—1978 (Raposa, 1978)  
 Papakanui—1982 (D.M.A., 1982)  
 Papakanui—1983 (Motteler, 1983)  
 Papakanui—1983 (\*Motteler, 1983:5)  
 Papakanui—1984 (U.S.G.S., 1984)  
 Water Tank Bay—1989 (\*Clark, 1989:131)

## Papakaiki

Papakanui—1911 (Conradt, undated)  
 Papaka B—1913? (Stokes, undated-b)  
 Lark B.—1913? (Stokes, undated-b)  
 ? Papaka B—1913? (Stokes, undated-b)  
 Kaulaia bay—1916 (Emory, 1916)  
 Papaka—1917 (Kauwekane, 1917a)  
 Papakaiki—1926? (L.M.Z., undated)  
 Papakaiki—1926 (U.S.G.S., 1926)  
 Papakaiki—1929 (U.S.G.S., 1929)  
 Papakaiki—1933 (\*McAllister, 1933:58)  
 Papakaiki—1947 (U.S.G.S., 1947)  
 Papakaiki—1965 (Klingensmith, 1965)  
 Papakaiki—1970s (Tax Key, undated)  
 Kaulana Bay—1970s? (Ashdown, undated)  
 Papakaiki—1977 (Motteler, 1977a)  
 Papakaiki—1978 (Raposa, 1978)  
 Papakaiki—1982 (D.M.A., 1982)  
 Papakaiki—1983 (Motteler, 1983:5)  
 Papakaiki—1983 (\*Motteler, 1983:5)  
 Papakaiki—1984 (U.S.G.S., 1984)  
 Santos Bay—1989 (\*Clark, 1989:131)

## Papakaiki Gulch

Papakaiki Gulch—1926 (U.S.G.S., 1926)  
 Papakaiki Gulch—1929 (U.S.G.S., 1929)  
 Papakaiki Gulch—1947 (U.S.G.S., 1947)

Papakaiki Gulch—1970s (Tax Key, undated)  
 Papakaiki Gulch—1977 (Motteler, 1977a)  
 Papakaiki Gulch—1978 (Raposa, 1978)  
 Papakaiki Gulch—1980 (29th Eng., 1980)  
 Papakaiki Gulch—1982 (D.M.A., 1982)  
 Papakaiki Gulch—1983 (Motteler, 1983)  
 Papakaiki Gulch—1983 (\*Motteler, 1983:5)  
 Papakaiki Gulch—1984 (U.S.G.S., 1984)

## Papakaiki Point

Papakaiki Pt.—1954 (U.S.N., 1954)  
 Papakaiki Point—1980 (29th Eng., 1980)

## Papakanui Gulch

Papakanui Gulch—1926 (U.S.G.S., 1926)  
 Papakanui Gulch—1929 (U.S.G.S., 1929)  
 Papakanui Gulch—1947 (U.S.G.S., 1947)  
 Papakanui Gulch—1970s (Tax Key, undated)  
 Papakanui Gulch—1977 (Motteler, 1977a)  
 Papakanui Gulch—1978 (Raposa, 1978)  
 Papakanui Gulch—1982 (D.M.A., 1982)  
 Papakanui Gulch—1983 (Motteler, 1983)  
 Papakanui Gulch—1983 (\*Motteler, 1983:5)  
 Papakanui Gulch—1984 (U.S.G.S., 1984)

## Papakanui Point

Papakanui Pt.—1954 (U.S.N., 1954)  
 Papakanui Point—1980 (29th Eng., 1980)

## Pohaku Koma

Pohaku Koma—1983 (\*Motteler, 1983:5)

## Pohakumanu

Pohakumanu—1911? (Conradt, undated)  
 PohaKumanu—1913? (Stokes, undated-c)  
 Pohakumanu—1933 (McAllister, 1933:58)  
 Pohakumanu—1977 (Motteler, 1977a)  
 Pohakumanu—1983 (\*Motteler, 1983:5)

## Pohaku olu

Pohaku olu—undated (\*HI. K.8)

## Pohaku Pookanaka Kuhikeekahiki

Pohaku Pookanaka Kuhikeekahiki—1977  
 (Motteler, 1977b)  
 Pohaku Pookanaka Kuhikeekahiki—1983  
 (\*Motteler, 1983:5)

## Restoring a Cultural Treasure

### Puhi Anenue

Puhi anenue—1917 (Kauwekane, 1917a)  
Puhi anenue—1917 (Kauwekane, 1917b)  
Puhi Anenue—1929? (Unknown, undated)  
Puhianenue—1933 (\*McAllister, 1933:58)  
Puhia-ne-nui—1960 (\*Ashdown, 1960:6)  
Puhi anenue—1977 (Motteler, 1977a)  
Puhi a Nanue—1977 (Motteler, 1977b)  
Puhi a Nanue—1982 (D.M.A., 1982)  
Puhi a Nanue—1983 (Motteler, 1983)  
Puhi a Nanue—1983 (\*Motteler, 1983:5)  
Puhi a Nanue—1984 (U.S.G.S., 1984)

### Puhi o Halona

Puhi stopped by Kalaikini—1889 (Doc. 1126, undated-b)  
Puhi stopped by Kalaikini—1913? (Stokes, undated-a)  
Puhi—1917 (Stokes, 1917)  
Puhi o halona—1917 (Kauwekane, 1917a)  
Puhi ohalona—1917 (Kauwekane, 1917b)  
Puhi O Halona—1929? (Unknown, undated)

### Puhi o Kohe o Hala

Kohe o Hala—1889? (Doc. 1126, undated-b)  
Kohe o Hala—undated (\*HI. K.8)  
Kohe o Hala—1913? (Stokes, undated-a)  
Kohe o Hala—1913? (Stokes, undated-c)  
Kohe o Hala—1916 (Emory, 1916)  
Kohe o Hala—1917 (Stokes, 1917)  
Puhi—1917 (Stokes, 1917)  
Puhi o Koheohala—1917 (Kauwekane, 1917a)  
Puhi o Koheohala—1917 (Kauwekane, 1917b)  
Kohe o Hala—1925? (Dranga?, undated)  
Puhi Koheo Hala—1926 (U.S.G.S., 1926)  
Puhi Koheo Hala—1929 (U.S.G.S., 1929)  
Puhi o Koheohala—1929? (Unknown, undated)  
Puhi Koheo Hala—1933 (\*McAllister, 1933:58)  
Puhi Koheo Hala—1947 (U.S.G.S., 1947)  
Puhi Koheo Hala—1970s? (Tax Key, undated)  
Kohe o Hala—undated (Ashdown, undated)  
Kohe o Hala—1975 (Ashdown, 1975a)  
Kohe o Hala—1977 (Ashdown, 1977)  
Kohe o Hala—1977 (Motteler, 1977a)  
Puhi Koheo Hala—1978 (Raposa, 1978)  
Puhi Koheo Hala—1982 (D.M.A., 1982)  
Kohe o Hala—1983 (Motteler, 1983)  
Kohe o Hala—1983 (\*Motteler, 1983:4)  
Puhi Koheo Hala—1983 (\*Motteler 1983:4)  
Puhi Kohe o Hala—1984 (U.S.G.S., 1984)

### Punapuna

Punapuna—1913? (Stokes, undated-c)  
Punapuna—1933 (\*McAllister, 1933:58)

### Puna Wai

Puna Wai—1977 (Ashdown, 1977)

### Punawai Honu (or Huna)

Punawai Honu or Huna—1975 (Ashdown, 1975a)  
Puna Pee—1977 (Ashdown, 1977)

### Puu Kahua

Puu Kahua—1977 (Motteler, 1977a)  
Puu Kahua—1982 (D.M.A., 1982)  
Puu Kahua—1983 (\*Motteler, 1983:5)  
Puu Kahua—1984 (U.S.G.S., 1984)  
Landing Zone Eagle—Current Navy usage

### Puu Kamama

Puu Kamama—1939 (Stearns, 1939)  
Puu Kamama—1977 (Motteler, 1977b)  
Puu Kamama—1983 (\*Motteler, 1983:5)

### Puu Koae

Puu Koae—1889? (Doc. 1126, undated-b)  
Puukoae—1911? (Conradt, undated)  
Puu Koae—1913 (\*Stokes, 1913:I:10)  
Puu Koae—1913? (Stokes, undated-a)  
? Puu Koae—1913? (Stokes, undated-b)  
Puu Koae I.—1913? (Stokes, undated-c)  
Puu Koae—1916 (Emory, 1916)  
Puu Koae Id.—1917 (Stokes, 1917)  
Puu Koae—1917 (Kauwekane, 1917a)  
Puu Koae—1917 (Kauwekane, 1917b)  
Kahoolaweliilii—1925? (Dranga?, undated)  
Puukoae—1926? (L.M.Z., undated)  
Puu Koae—1926 (U.S.G.S., 1926)  
Puu Koae—1929 (U.S.G.S., 1929)  
Puu Koae—1933 (\*McAllister, 1933:58)  
Kahoolawe lii lii—1933 (\*Skinner, 1933:18)  
Puu Koae—1939 (Stearns, 1939)  
Puu Koae—1940 (Stearns, 1940a)  
Puu Koae—1947 (U.S.G.S., 1947)  
Puukoae I.—1954 (U.S.N., 1954)  
Puu Koae—1965 (Klingensmith, 1965)  
Puu Koae—1970s (Tax Key, undated)  
Puu Koae—undated (Ashdown, undated)  
Puu Koae—1975 (Ashdown, 1975b)  
Puu Koae—1977 (Motteler, 1977a)  
Puukoae Is.—1978 (Raposa, 1978)



## Appendixes

- Puukoe Island—1980 (29th Eng., 1980)
- Puu Koe—1982 (D.M.A., 1982)
- Puu Koe—1983 (Motteler, 1983)
- Puu Koe—1983 (\*Motteler, 1983:4)
- Kahoolaweliilii—1983 (\*Napoka, 1983:4)
- Puu Koe—1984 (U.S.G.S., 1984)

### Puu Kolekole

- Puu Kolekole—1939 (Stearns, 1939)
- Puu Kolekole—1977 (Motteler, 1977b)
- Puu Kolekole—1983 (\*Motteler, 1983:4)

### Puu lai

- Puu lai—1917 (Kauwekane, 1917a)
- Puu lai—1917 (Kauwekane, 1917b)
- Puu lai—1929? (Unknown, undated)
- Puu lai—1982 (D.M.A., 1982)
- Puu lai—1983 (Motteler, 1983:5)
- Puu lai—1984 (U.S.G.S., 1984)

### Puu Moiwi

- Kealia Lalo—1917 (Stokes, 1917)
- Puu Moiwi—1926? (L.M.Z., undated)
- Puu Moiwi—1926 (U.S.G.S., 1926)
- Puu Moiwi—1929 (U.S.G.S., 1929)
- Puu Moiwi—1933 (McAllister, 1933)
- Puu Moiwi—1933 (\*McAllister, 1933:58)
- Puu Moiwi—1939 (Stearns, 1939)
- Puu Moiwi—1947 (U.S.G.S., 1947)
- Puu Moiwi—1954 (U.S.N., 1954)
- Moiwi—1970s (Ashdown, undated-b)
- Puu Moiwi—1975 (Ashdown, 1975)
- Moiwi—1977 (Ashdown, 1977)
- Puu Moiwi—1977 (Motteler, 1977a)
- Puu Moiwi—1978 (Raposa, 1978)
- Puu Moiwi—1980 (29th Eng., 1980)
- Puu Moiwi—1982 (D.M.A., 1982)
- Puu Moiwi—1983 (Motteler, 1983)
- Puu Moiwi—1983 (\*Motteler, 1983:5)
- Puu Moiwi—1984 (U.S.G.S., 1984)

### Puu o Moaulaiki

- Ulapuu—1875 (\**Ka Lahui Hawaii*, 12/30/1875: p. 4, c. 2)
- Moaula—1879? (\*Unknown, undated:1)
- Kahoolawe 1428—1880 (Dodge, 1880)
- Puu o Moaula—1889? (Doc. 1126, undated-b)
- Kahoolawe, 1428—1905 (Rhodes, 1905)
- Kahoolawe—1906 (Newton, 1906)
- Kahoolawe—1911 (Podmore, 1911)
- Kahoolawe—1913 (Forbes, 1913)

- Puu o Moaula—1913 (\*Stokes, 1913:I:5,10)
- Puu o Moaula—1913? (Stokes, undated-a)
- Moaula—1913? (Stokes, undated-b)
- Moaula Hill—1913? (Stokes, undated-c)
- Puu o Moaula—1916 (Emory, 1916)
- Moaula Hill—1917 (Stokes, 1917)
- Puu Moaula—1926? (L.M.Z., undated)
- Moaula—1926 (U.S.G.S., 1926)
- Moaula—1929 (U.S.G.S., 1929)
- Moaula—1933 (McAllister, 1933)
- Moaula—1933 (\*McAllister, 1933:58)
- Moaula—1939 (Stearns, 1939)
- Moaula—1947 (U.S.G.S., 1947)
- Moaula—1965 (Klingensmith, 1965)
- Hoaula—1970s (Tax Key, undated)
- Moaula-iki—1975 (Ashdown, 1975b)
- Moaula iki—1977 (Motteler, 1977a)
- Moaula—1978 (Raposa, 1978)
- Moaula—1980 (29th Eng., 1980)
- Puu Moaulaiki—1982 (D.M.A., 1982)
- Puu Moaulaiki—1983 (Motteler, 1983)
- Puu Moaulaiki—1983 (\*Motteler, 1983:5)
- Moaula—1983 (\*Motteler, 1983:5)
- Puu Moaulaiki—1984 (U.S.G.S., 1984)

### Puu o Moaulanui

- Hanaula or Moaula—1886 (Wall, 1886)
- Moaula—1917 (Kauwekane, 1917a)
- Moaula—1917 (Kauwekane, 1917b)
- Puu o Moaula—1925? (Dranga?, undated)
- Moaula—1929? (Unknown, undated)
- Moaula nui—undated (Ashdown, undated)
- Moaula-uka—1977 (Ashdown, 1977)
- Moaula Nui—1977 (Motteler, 1977a)
- Puu Moaulanui—1977 (Motteler, 1977b)
- Puu Moaulanui—1982 (D.M.A., 1982)
- Puu Moaulanui—1983 (Motteler, 1983)
- Moaulanui—1983 (Motteler, 1983)
- Puu Moaulanui—1983 (\*Motteler, 1983:4)
- Moaulanui—1983 (\*Motteler, 1983:4)
- Puu Moaulanui—1984 (U.S.G.S., 1984)

### Sailor's Hat

- Sailor's Hat—1977 (Motteler, 1977b)
- Sailor Hat—1978 (Raposa, 1978)
- Sailor's Hat—1983 (\*Motteler, 1983:5)
- Sailor's Cap—Alternative current Navy usage

### Waaiki (Ili)

- Waaiki—1889? (Doc. 1126, undated-a)
- Waaiki—1977 (Motteler, 1977-a)

## Waaiki

Waaiki Bay—1889? (Doc. 1126, undated-b)  
 Waaiki b—1913? (Stokes, undated-a)  
 Waaiki—1926? (L.M.Z., undated)  
 Waaiki—1926 (U.S.G.S., 1926)  
 Waaiki—1929 (U.S.G.S., 1929)  
 Papaka—1929 (Unknown, undated)  
 Waaiki—1933 (\*McAllister, 1933:58)  
 Waaiki—1947 (U.S.G.S., 1947)  
 Waaiki—1970s (Tax Key, undated)  
 Papaka nui—1970s? (Ashdown, undated-a)  
 Waa-iki—1970s? (Ashdown, undated-a)  
 Waa-iki—1975 (Ashdown, 1975)  
 Waa-Iki—1977 (Ashdown, 1977)  
 Waaiki—1977 (Motteler, 1977a)  
 Waaiki—1978 (Raposa, 1978)  
 Waaiki—1982 (D.M.A., 1982)  
 Waaiki—1983 (Motteler, 1983)  
 Waaiki—1983 (\*Motteler, 1983:5)  
 Waaiki—1984 (U.S.G.S., 1984)

## Waaiki Gulch

Waaiki Gulch—1926 (U.S.G.S., 1926)  
 Waaiki Gulch—1929 (U.S.G.S., 1929)  
 Waaiki Gulch—1947 (U.S.G.S., 1947)  
 Waaiki Gulch—1970s (Tax Key, undated)  
 Waaiki Gulch—1977 (Motteler, 1977a)  
 Waaiki Gulch—1978 (Raposa, 1978)  
 Waaiki Gulch—1980 (29th Eng., 1980)  
 Waaiki Gulch—1982 (D.M.A., 1982)  
 Waaiki GI—1983 (Motteler, 1983)  
 Waaiki Gulch—1983 (\*Motteler, 1983:5)  
 Waaiki Gulch—1984 (U.S.G.S., 1984)

## Waaiki Point

Waaiki Point—1980 (29th Eng., 1980)

## Wai Awa

Wai Awa—1977 (\*Ashdown, 1977:4)

## Wai Honu Gulch

Wai Honu Gulch—1977 (Motteler, 1977b)  
 Wai Honu Gulch—1982 (D.M.A., 1982)  
 Wai Honu Gulch—1983 (Motteler, 1983)  
 Wai Honu Gulch—1983 (\*Motteler, 1983:5)  
 Wai Honu Gulch—1984 (U.S.G.S., 1984)

## Wai Kahalulu

Waikaalulu—1857 (\*Nahaolelua & Richardson, 1857:3)

Waikahalulu—1886 (Wall, 1886)  
 Wai Kahalulu—1889? (Doc. 1126, undated-b)  
 Lua Puhi—1911? (Conrad, undated)[?]  
 33—1913 (Forbes, 1913)  
 33 Bay—1913 (\*Stokes, 1913:I:12)  
 Kealaikahiki—1913? (Stokes, undated-a)  
 Waikahalulu—1913? (Stokes, undated-a)  
 33-1913? (Stokes, undated-b)  
 Lua Puhi—1913? (Stokes, undated-c)  
 33-1913? (Stokes, undated-c)  
 Waikahalulu Bay—1913? (Stokes, undated-c)  
 Wiliwilipeapea—1916 (Emory, 1916)  
 Waikahalulu Bay—1917 (Stokes, 1917)  
 Wai Kahalulu—1917 (Kauwekane, 1917a)  
 Wai Kahalulu—1917 (Kauwekane, 1917b)  
 Waikahalulu Bay—1925? (Dranga?, undated)  
 Waikahalulu Bay—1926? (L.M.Z., undated)  
 Waikahalulu Bay—1926 (U.S.G.S., 1926)  
 Waikahalulu Bay—1929 (U.S.G.S., 1929)  
 Wai Kahalulu—1929? (Unknown, undated)  
 Waikahalulu Bay—1933 (McAllister, 1933)  
 Waikahalulu—1933 (\*McAllister, 1933:58)  
 Waikahalulu Bay—1939 (Stearns, 1939)  
 Waikahalulu Bay—1940 (Stearns, 1940a)  
 Waikahalulu Bay—1947 (U.S.G.S., 1947)  
 Waikahalulu Bay—1954 (U.S.N., 1954)  
 Waikahalulu Bay—1965 (Klingensmith, 1965)  
 Waikahalulu Bay—1970s (Tax Key, undated)  
 Waikahalulu iki—undated (Ashdown, undated)  
 Wai ka ha lulu Bay—1975 (Ashdown, 1975a)  
 Wai kahalulu Bay—1977 (Ashdown, 1977)  
 Wai Kahalulu Bay—1977 (Motteler, 1977a)  
 Waikahalulu Bay—1978 (Raposa, 1978)  
 Waikahalulu Bay—1980 (29th Eng., 1980)  
 Waikahalulu Bay—1982 (D.M.A., 1982)  
 Waikahalulu Bay—1983 (Motteler, 1983)  
 Waikahalulu Bay—1983 (\*Motteler, 1983:5)  
 Waikahalulu Bay—1983 (\*Napoka, 1983:4)  
 Laepuhi—1983 (\*Napoka, 1983:3)  
 Waikahalulu Bay—1984 (U.S.G.S., 1984)

## Waikahalulu Gulch

Wai ka ha lulu Stream—1977 (Ashdown, 1977)  
 Waikahalulu Gulch—1977 (Motteler, 1977b)  
 Waikahalulu Gulch—1982 (D.M.A., 1982)  
 Waikahalulu Gulch—1983 (Motteler, 1983)  
 Waikahalulu Gulch—1983 (\*Motteler, 1983:5)  
 Waikahalulu Gulch—1984 (U.S.G.S., 1984)  
 Klein's Gulch—Current Navy usage

## Wai Lalo

Wai Lalo—1977 (Ashdown, 1977)



## Appendixes

### Wai o Kanaloa

Wai o Kanaloa—1960 (\*Ashdown, 1960:5)

### Wai puna pee

Wai puna pee—1975 (Ashdown, 1975)

Waipunapee—1983 (\*Napoka, 1983:4)

### Wiliwilipeapea

Wiliwilipeapea—1889? (Doc. 1126, undated-b)

Wiliwilipeapea—1913? (Stokes, undated-a)

Wiliwilipeapea—1913? (Stokes, undated-b)

Wiliwilipeapea—1917 (Stokes, 1917)

Wiliwilipeapea—1933 (\*McAllister, 1933:58)

Wiliwilipeapea—1977 (Motteler, 1977a)

Wiliwilipeapea—1982 (D.M.A., 1982)

Wiliwilipeapea—1983 (Motteler, 1983)

Wiliwilipeapea—1983 (\*Motteler, 1983:5)

Laewiliwilipeapea—1983 (\*Napoka, 1983:3)

Wiliwilipeapea—1984 (U.S.G.S., 1984)

## Appendix 12. Special Reports, Projects, and Consultants

1. Joel August, Esq. *Comprehensive Legal Research Memorandum*, Wailuku, 1992.
2. J. Stephen Athens, Jerome Ward, and David Welch. *Paleobotanical Investigations, Kaho`olawe Island, Hawai`i*, International Archaeological Research Institute, Honolulu, 1992.
3. Kendall F. Casey, Brian A. Baertflein, and Bryon Donaldson. *Unexploded Ordnance on Kaho`olawe: Historical Review, Technology Assessment, and Clearance Planning*, Ballena Systems Corporation with Donaldson Enterprises, Alameda, 1992.
4. Thomas W. Giambelluca and Keith Loague. *The Spatial Variability of Near-Surface Soil Hydraulic Properties for Kaho`olawe: A Preliminary Investigation*, Honolulu, 1992.
5. Heather Giugni. *Kaho`olawe: Restoring a Cultural Treasure (A video Presentation)*, Juniroa Productions Inc., Honolulu, 1993.
6. Samuel Gon III, Gail Chun, et. al. *Biological Database and Reconnaissance Survey of Kaho`olawe Island Including Rare Plants, Animals and Natural Communities*, The Nature Conservancy of Hawaii, Hawai`i Heritage Program, Honolulu, 1992.
7. Michael Graves and C. Kehaunani Abad. *Preservation of Historical Resources on Kaho`olawe: Responsibilities, Natural and Cultural Impacts, and Priorities*, Honolulu, 1992.
8. Michael Graves and Gail Murakami. *Kaho`olawe Settlement Utilizing Radio-Carbon Dating Techniques*, Honolulu, 1993.
9. Rubellite Kawena Johnson, Abraham Piianaia, Aki Sinoto, and Edward Stasack. *Kaho`olawe's Potential Astro-Archaeological Resources*, Honolulu, 1993.
10. Royce Allen Jones. *Kaho`olawe (A Geographic Information System-GIS)*, Geographic Decision Systems International, Honolulu, 1993.
11. David Kalama. *Kaho`olawe (A Video Production)*, Kalama Productions with Lynne Waters Productions, Honolulu, 1993.
12. Pua Kanahele. *Kaho`olawe's Living Cultural Heritage*, Kanaka`ole Foundation, Hilo, 1993.
13. Pauline King. *Kaho`olawe Island: The Uses of Its History*, Honolulu, 1993.
14. Pat McCoy, Attwood Makanani, and Aki Sinoto. *Pu`u Moiwai Shrine and Quarry Site*, Honolulu, 1993.
15. Edith McKinzie. *Na Mo`i O Kaho`olawe: The Administrators of Kaho`olawe*, Honolulu, 1992.
16. Rowland Reeve. *Kaho`olawe Place Names*, Honolulu, 1992.
17. Rowland Reeve. *Na Wahi Pana O Kaho`olawe*, Honolulu, 1992.
18. Carol Silva. *Kaho`olawe Historic Documentation: 1970-1990*, Honolulu, 1993.
19. Hardy Spoehr. *Kaho`olawe Forest Reserve Period: 1910-1918*, Honolulu, 1992.
20. Hardy Spoehr. *Kaho`olawe Honey and Pineapple Ventures: Anecdotes to the Island's History*, Honolulu, 1992.
21. Edward Stasack. *Kaho`olawe Petroglyph Survey and Inventory*, Associated Rock Art Consultants, Prescott, 1993.

*Consultant reports are available for review at the National Archives in Washington, D.C., the State of Hawai`i Archives, and Office of State Planning in Honolulu, Hawai`i.*



## Appendixes

### Consultants

#### Individuals

C. Kehaulani Abad  
Tom Giambelluca  
Michael Graves  
Mikilani Ho  
Dan Holmes  
Rubellite Kawena Johnson  
Pauline King  
Lt. William Klein, U.S.N.  
Keith Loague  
Pat McCoy  
Davianna McGregor  
Edith McKinzie  
Attwood Makaanani  
Meleanna Meyer  
Abraham Pi`ania  
Rowland Reeve  
Carol Silva  
Aki Sinoto

#### Organizations

**Ballena Systems Corporation**  
Kendall Casey  
Brian A. Baertflein  
**Donaldson Enterprises**  
Byron Donaldson  
**Geographic Decision Systems International**  
Royce Allen Jones  
**International Archaeology Research Institute**  
J. Stephen Athens  
Jerome Ward  
David J. Welch  
**Juniroa Productions Inc.**  
Esther Figueroa  
Heather Giugni  
Lurline McGregor  
**Kanaka`ole Foundation**  
Pua Kanaka`ole Kanahele  
**Pacific Tropical Botanical Gardens**  
Steve Perlman  
Ken Wood  
**Associated Rock Art Consultants**  
Georgia Lee  
Frank Morin  
Ed Stassack  
**The Smithsonian Institution**  
Storrs Olson  
**The Nature Conservancy of Hawai`i**  
Gail Chun  
Sam Gon III

### Appendix 13. Public Hearings Participants

#### Written Testimonies Received in Response to the First Public Hearings

Robert Aitken  
Tony D. Akioka  
B. Ben Bohlool, Ph.D., NifTAL Project and Mircen  
Judy Buettner  
Thomas R. Cannon, Maui County Cultural Resources Commission  
Janis D. Casco, The Whaler  
Douglas Codiga  
Jan Dapitan  
Mary Evanson, Sierra Club, Hawaii Chapter, Maui Group  
Sherry L. Evans, Na Keiki O Hawai'i  
Bill Feltz  
Rik Fitch  
Nelson Fuson  
Pualani Kanahele  
Mathew F. Kaonohi, dba Administrative Consultant Services  
Officers of the Temple of Lono  
Cheryl U. Lovell-Obatake  
Brigit McBride  
Michael M. McPherson  
Herbert Paas  
David K. Pedro  
Palmer Purdy  
Linda L. Shackelford  
Jack Sharpsteen, Honson Company  
Michael S. Spalding  
Joseph Stevens  
Yvonne K. Thompson  
Cynthia Winters-Babula

#### Written Testimonies Received in Response to the Second Public Hearing

Isabella A. Abbott, Professor of Botany, University of Hawaii  
Gail Chun, The Nature Conservancy of Hawaii  
Pi'ilani C. Desha, Hawaiian Civic Clubs  
Robert Foster  
Ellen Garrison

Gregory Arthur Herbst  
Ilona K. Fu Moritsugu  
Anna R. Stuart  
Randi Wold  
Jerome K. Yasuhara, National Native American Law Students Association, Inc., Tempe AZ

#### Moloka'i Public Hearing April 9, 1991 Mitchell Pauole Center Kaunakaka'i, Moloka'i

##### Participants:

Bobby Alcain  
Luana Busby  
Harry Chung  
Mason K. Coelho  
Stacy Crivello  
Rhonda Dudoit  
Sahoni Elizabeth English  
Gertrude K. Frantz  
Celeste Elizabeth Ginliano  
Wilma Grambusch  
Sean Gonzales  
Larry Helm  
Aunty Lani Kapuni  
Shannon W. Lima  
Martin Kahae  
William Kalipi  
Halona Kaopuiki  
Moke Kim (with slide show)  
Wanette Lee  
Colette Y. Machado  
Walter Mendes  
Edwin L.P. Miranda  
B.J. Moniz  
Bridget Mowat  
Betty Puaa  
Walter Ritte, Jr.  
Eldridge Spencer  
DeGray Vanderbilt  
Kamakahukilani Von Oelhoffen



## Appendixes

### First Hilo Public Hearing State Office Building Hilo, Hawai'i

#### Participants:

Maonikeala Akaka  
Gary Alexander  
Bonnie Bator  
Marie Blenert  
Catherine Ann Glaze  
Michael Helm  
Pualani Kanahele  
Dwight Kondo  
Kristine Kubot  
Holly Lange  
Denver Leaman  
Craig "Bo" Kahui  
Edward Kanattle  
Jonathan Naone  
Eugene "Geno" Louis Plares  
Alvin Pagan  
Kawaipuna Prejean  
Elizabeth Ramsey  
Moke Reyes  
William Reich  
Peggy Ha'o Ross  
Steven Tayama  
Michael Trask  
Mililani Trask

### Kona Public Hearing April 17, 1991 King Kamehameha Hotel Kona, Hawai'i

#### Participants:

Mary Alo  
Kealiikoa Dedman  
Karen Eoff  
Rick Gaffney  
Pele Hanoa  
Jay Hanson  
Cliffe Hogge  
Jeanne Huihui  
Stanley Huihui  
Cindee Irvine  
Pukui Kaleiwahea  
James Kalili  
Kai  
Keali'ikea'ehale O  
Kaholokai  
Henry K. Kekai

Bernard Keliikoa  
Charmaine Merrill  
Olga Nauka  
Buster Padilla  
Mahealani Pai  
Angel Pilago  
Nita Pilago  
Jerry Rothstein  
George Robertson  
John Spencer  
Peggy Spencer  
David Tarnas  
Melody Viernes

### O'ahu Public Hearing April 25, 1991 Hawai'i State Capitol Honolulu, Hawai'i

#### Participants:

Keith Ahue  
Ann Baginski  
Mary Baker  
Colonel Wallace Campbell, USMC  
Phyllis Cayan  
Dave Chun  
Charles Dodge  
Linda Dunn  
Rear Admiral William Earner, USN  
Harold B. Estes  
Ron Fenstermacher  
Roger Furrer  
Linda Gallano  
Councilman Gary Gill  
Steven Heleia  
Paul Helfrich  
Dan Herman  
Lela Hubbard  
Colonel Bob Jackson, U.S. Army  
Jo Ann Ka'akua  
Joe Ka'akua  
Ku Kahakalau  
Nalei Kahakalau  
Kawehi Kanui  
Kawahine Kamakea  
Ekela Kaniaupio  
Moses Keale, Office of Hawaiian Affairs Trustee  
John Kelly  
Marion Kelly  
David Klein  
Keith Krueger  
Kay Larsen

## Restoring a Cultural Treasure

Alan Lloyd  
Davianna McGregor  
Doug Margolis  
Thomas Maunapau  
Luciano Minerbi  
Rodney Morales  
Brian Nakamura  
Craig Neff  
Kihei Niheu  
Francis Norris  
Franklin Odo  
Bob Ogawa  
Kalani Ohelo  
Mel Pestana  
James Pitton  
Richard Polelia  
Lewellen Po`omaihealani  
Senator Rick Reed  
Rowland Reeve  
Wayne Sasaki  
Leslie Teale  
Representative Cynthia Thielen  
Captain Walter Tobias  
Laurie Veatch  
Dawn Wasson  
Joey Watts  
Kalani Whittaker  
Aaron Whyne  
Rhonda Willard  
Ernestina Williams  
Norma Wong, Office of State Planning  
Roy Yee

### Second Hilo Public Hearing

May 8, 1991

Hawai'i County Council Chambers  
Hilo, Hawai'i

#### Participants:

Jim Albertini  
Tom Aitken  
Daina Noelani Bush  
Adatchie Eaton  
Joseph Fanara  
Ronald Fujiyosi  
Ole Fulks  
Peter Hanohano  
Kelii Loane  
Lawrence Kahalepauole  
Reynolds Kamakawiwo`ole, Jr.  
Kaliko Kawaele  
Gabriel Kealoha

Arthur Kepo`o  
Russell Kokubunm Hawai'i County  
Council Chairman  
Anna Kon  
Maile Kukuiku`uinu  
Rev. Tuck Wah Kalei Lee  
Margaret McGuire  
Michelle Kaleiokalani Minchew  
Charmaine Napoleon  
Robert Petricci  
Jim Snyder  
Mary Mae Umea  
Heidi Verrill  
Ron Walters  
Rich Warshauer  
Jane Kaho`onani Week

### Maui Public Hearing

May 14, 1991

Maui County Council Chambers  
Wailuku, Maui, Hawai'i

#### Participants:

Abraham Aiona, Office of Hawaiian Affairs  
Lopaka Aiwohi  
Patricia Akina  
Kristy Apana  
Ricky Apana  
Jennifer Awai  
Maui County Councilman Vince Bagoyo  
Christian Elsworth Bal  
Margo Berdeshevsky  
Smokey Burgess  
Amy Chang  
Kioni Crabbe  
Robin Crabbe  
Vernyce Dannells  
Mary Evanson  
Keoni Fairbanks  
Dana Naone Hall  
Roger Hawley  
Henry Hildebrand  
Dan Holmes  
Buck Joiner  
Thelma Kaahui  
Rev. Clarence Kamai  
William Kennison  
Kunio Kobayashi, for Congresswoman  
Patsy T. Mink  
Leina`ala Kuloloio  
Leslie Kuloloio  
Manuel Kuloloio



## Appendixes

Pua Mahoe  
Charles Maxwell  
Vincent Mina  
Michael Minn  
Brian Miskae, for Maui Mayor Linda Crockett-Lingle  
Rev. Heather Mueller  
Terry Murata  
Glenn Nano  
Hokulani Holt Padilla  
David Campbell Penn  
Kiope Raymond  
Elizabeth Rey  
Barry Rivers  
Hank Roberts  
Peter Starbuck  
Buckstar Starbuck  
Dinah Starbuck  
Una Starbuck  
Rendell D. Tong  
David Ventura  
Daniel Vicars  
Elaine Wender  
Greg West  
Jonathan Waxman

**Kaua'i Public Hearing**  
**May 15, 1991**  
**Kaua'i Community College**  
**Lihue, Kaua'i, Hawai'i**

**Participants:**

Danita Aiu  
Mohala Aiu  
Clifford I. Arinaga  
Hartwell K.K. Blake  
Jean Ilei Beniamina  
Ted Blake  
Donald L. Bodine  
Denny Boiser  
Joseph Chang  
Dennis Chun  
David Duncan  
Susan Floyd  
Wilma Holi  
Ed Kaiwi  
Bill Laurence  
Jo-Ann Lei Kalamau  
Debora Kimball  
Kealo Likina  
John Kekahu  
Attwood Maikai Makanani  
Maikai Makanani

Malia Makanani  
Lee Mentley  
Melani Nagao  
Peter A. Nakamura, Kaua'i County Planner  
James Nishida  
Carmen Panui  
Barbara Jean Pigge  
Sharon Pomroy  
Judith Puanani  
Henry Smith  
Dorothy Tao  
Arthur Kaukaohu Trask  
Chuck Trembath  
Healani Trembath  
Charles R. Wichman, Jr.  
Leslie Wilkins, Hawaii Federation of Business  
and Professional Women's Clubs, Inc.

**Lana'i Public Hearing**  
**May 30, 1991**  
**Lana'i Public Library**  
**Lana'i City, Hawai'i**

**Participants:**

Dartagnan Bicoy  
Joseph Chang  
Williamson (Bill) Chang  
Martha A. Evans  
Kimberly L. Kahakauwila  
Lynn Kaho'ohalahala  
Sol Kaho'ohalahala  
Elaine Kaopuiki  
Elizabeth Pa Martin  
John Ornellas  
Glenn Oshiro

**Hilo Oral Testimony**  
**October 19, 1992**  
**University of Hawai'i at Hilo**  
**Hilo, Hawai'i**

Jim Albertini  
Alan Weweheokalani Alexander  
Ian Birnie  
Sandra K. Buckles  
Paulo Burns  
Luana A. Busby  
Nalukealina Kealohamaikalani  
Lehuanani Kai Hayes  
Gregory Arthur Herbst  
Kelii W. Loane  
Virginia Isbell

## Restoring a Cultural Treasure

Faelyn L. Jardine  
Kai Kealiikeahale O Kaholokai  
M. Kaleialii Kaopio  
Kinohi Gomes  
Ku Kahakalau  
Kalani Kahalepauole  
Bonnie Kahapea  
Kawika Kaikala  
Clara L. Kakalia  
Burt Kauhi  
Vickathy Leialoha Kelekolio  
Harry Kepaa  
Mana Kon  
Brenda Luana Machado Lee  
Genesis Lee Loy  
Yoshito Robert L'Hote  
Leimomi Manner  
Kaohulani McGuire  
Margaret McGuire  
Nalani Merrill  
Manu Meyer  
William Kealakahi Meyers  
Paul K. Neves  
David Paul  
Kealoha Pisciotto  
Rita Pregana  
Punawai Rice  
David B. Smith  
John K. Spencer  
Steven Tayama  
Naauao Vivas  
Rick Warshauer  
Norma Wong, Office of State Planning

### Kona Oral Testimony October 20, 1992 King Kamehameha Hotel Kona, Hawai'i

Mary Alo  
Anuheia Reimann Giegerl  
Cliff Hogge  
Tiffany Jardine  
Trisha Kahokulani Jardine  
Buster Padilla

### Maui Oral Testimony October 21, 1992 Maui County Council Chambers Wailuku, Maui, Hawai'i

Margo Berdeshevsky  
Susan Bradford  
Lesley Ann Bruce  
Mei-Ling Chang  
Mary Evanson  
Henry Hildebrand  
Dan Holmes  
Hokulani Holt-Padilla  
Robyn Kalama  
Leslie A. Kuloloio  
Charles Kauluwehi Maxwell  
Brian Miskae, Maui County Planning Department  
Kiope Raymond  
Hank Roberts  
Burt Sakata  
Mark E. Shaffer  
Bill Smith  
Rene Sylva  
Elaine Wender

### Moloka'i Oral Testimony October 22, 1992 Mitchel Pauole Center Kaunakaka'i, Moloka'i Hawai'i

Billy Akutagawa  
Louella Opuulani Albino  
Kevin Fitzsimmons  
Wilma K. Grambusch  
Kekama Helm  
Larry Helm  
Moke Kim, Jr.  
Colette Y. Machado  
Penny Martin  
Walter P. Mendes  
Raymond Naki  
Walter Ritte, Jr.  
Donna Uahinui  
Wren Wescoatt



## Appendixes

### Lana`i Oral Testimony

October 26, 1992

Lana`i Public Library

Lana`i City, Hawai`i

Lynn Kahooalahala

Sol Kahooalahala

Elaine Kaopuiki

John Ornellas

Irene Perry

### O`ahu Oral Testimony

Tuesday, October 27, 1992

Kaumakapili Church Honolulu,

O`ahu, Hawai`i

Scotty Bowman, for Clayton Hee, Chairman,  
Office of Hawaiian Affairs

Karen Boyle

Dawn Czarnecki

Charles Dodge

Lela Hubbard

Davianna McGregor

David Martin

Kunani Nihipali

Palani Nobriga

Jon Osorio

Rendell Kaimipono Tong

Laurie Veatch

Kawika Winter

### Kaua`i Oral Testimony

October 28, 1992

Kapa`a Public Library

Kapa`a, Kaua`i, Hawai`i

Ilei Beniamina

Carl Berg

Jack Churchhill

David Duncan

Robert Duncan

Attwood Makaanani

Sharon Pomroy

Joseph H. Reyes

Dorothy Tao

Charles Trembath

Healani Trembath

Kealohikina Pahio Tsukiyama

### Appendix 14. Biographies of the Commissioners, Commission Staff, and Legal Counsel

#### Hannibal Tavares, Chairman

Kaho`olawe Island Conveyance Commission Chairman Hannibal Tavares was Mayor of Maui County from 1979 to 1990. He joined Alexander and Baldwin Inc. in 1972, where he rose to the position of Corporate Vice President of Community Relations with statewide responsibilities, and remained until 1979, when he won election as Mayor of Maui County. Mr. Tavares' illustrious career of public service and corporate responsibility has also included 7 years with the Maui Police Department, where he was promoted from patrolman, to detective, and then to captain; 3 years as a teacher at the old Maui High School in Hamakuapoko; 4 years as an elected member of the Maui County Board of Supervisors; and more than 20 years with the sugar industry in various positions of authority.

Mr. Tavares was born in Makawao, Maui, and educated on Maui and on O`ahu. He attended the University of Hawai`i and San Diego State College, and the American Management Association School of Management in New York City.

#### Noa Emmett Aluli, M.D., Vice Chairman

Noa Emmett Aluli has been a practicing family and primary care physician on Moloka`i, at the Moloka`i Family Health Center/Moloka`i Clinic and the Moloka`i General Hospital, since 1975. He is President of Na Pu`uwai, Inc., the Native Hawaiian health care organization that sponsored the Moloka`i Heart study in 1985 and the Moloka`i Diet Study in 1987, and is currently providing health surveillance, outreach services, and monitoring diabetes and hypertension in residents of the islands of Moloka`i (including Kalaupapa) and Lana`i. He has served as an educator, teaching math and science in several island schools, and also served in the U.S. Coast Guard from 1967 to 1973.

Dr. Aluli is the current President of the Protect Kaho`olawe Fund, and spokesman for the Protect Kaho`olawe `Ohana—an organization he helped found. He was also recently appointed to membership on the National Heart Lung Blood Institute Ad Hoc Committee on Minority Populations. In addition he is a founding member of Hui Ala Loa, Moloka`i; the Pele Defense Fund; Ka `Ohana O Ka Lae; and Hui Malama I Na Kupuna/the Moloka`i Burials Council.

Dr. Aluli was born in Honolulu, where he attended St. Louis High School. He received a Bachelor of Science degree from Marquette University in Wisconsin in 1966; did graduate research at the University of Hawai`i, the University of Rochester, and the University of New Mexico; graduated from the University of Hawai`i School of Medicine in 1975; and completed the University of Hawai`i Integrated Surgery/Family Medicine internship in 1966.

#### A. Frenchy DeSoto, Commissioner

A. Frenchy DeSoto is a Trustee-At-Large of the Office of Hawaiian Affairs (OHA)—a post she was first elected to in 1980 and re-elected to in 1986. Trustee DeSoto served in the 1978 Constitutional Convention, was on the Waianae Neighborhood Board No. 24 for two terms, and also served on the Alu Like Board of Directors. She was also Manager of the Waianae Satellite City Hall of the City and County of Honolulu until she retired in 1992. Known as "Aunty" Frenchy, Ms. DeSoto has been active in the community, receiving many awards and commendations for her outstanding service.

Born in Honolulu, Trustee DeSoto graduated from Farrington High School; attended Leeward Community College and Central Michigan University; and has completed management courses offered by the City and County of Honolulu.



### James A. Kelly, Commissioner

James A. Kelly is President of EAP Associates, Inc., a Honolulu, Hawai'i, firm that provides international business consulting services focused on East Asia and the Pacific. Previously, he was Special Assistant for National Security Affairs to President Ronald Reagan, and was Senior Director for Asian Affairs, National Security Council, from March 1986 to March 1989. His responsibilities have included political, economic, and military issues involving all the countries of East Asia and the Pacific, and coordination of Asia/Pacific policy within the executive branch of the United States Government.

From June 1983 to March 1986, Mr. Kelly was Deputy Assistant Secretary of Defense for International Security Affairs (East Asia and Pacific), and was responsible for managing defense policy matters involving the Pacific and Asia, including frequent testimony before committees of the Congress.

Mr. Kelly is a graduate of Harvard University, the U.S. Naval Academy, and the National War College. He served in the U.S. Navy Supply Corps from 1959 to 1982, concluding his active duty as a Captain. He and his family have been residents of Hawai'i since 1971.

### H. Howard Stephenson, Commissioner

H. Howard Stephenson is Chairman and Chief Executive Officer of Bancorp Hawai'i, Inc., and its principal subsidiary, Bank of Hawai'i. He has been with Bank of Hawai'i for 34 years. Mr. Stephenson joined the bank's mortgage department in 1959; became Assistant Vice President in 1962; was elevated to Vice President of the Mortgage Loan Administration in 1963; was named Senior Vice President of that unit in 1968; and was promoted to Executive Vice President of the Loan Administration Division in 1972. From 1980, until he assumed his current position, Mr. Stephenson served as President of Bancorp, Hawai'i, Inc., and its principal subsidiary, Bank of Hawai'i.

Throughout his career, Mr. Stephenson has been active in various business, professional, and community associations, including the American Bankers Association, Hawaii Bankers Association, U.S. Japan

Business Council, U.S. Korea Business Council, and Association of Reserve City Bankers. He currently serves on the boards of the Aloha United Way, the Honolulu Symphony, the Maunalani Foundation and the Pacific Fleet Submarine Memorial Association, Inc., and is also Co-Chairperson of the Ellison Onizuka Memorial Scholarship Fund, Chairman of the Hawai'i Business Roundtable, and Chairman of the Board of Regents of the University of Hawai'i.

Mr. Stephenson was born in Wichita, Kansas, received his undergraduate degree from the University of Michigan in 1950, and graduated with distinction from the School of Law of the University of Missouri, Kansas City.

### KICC Staff Members

#### H. Rodger Betts, Executive Director

H. Rodger Betts has had a distinguished career of federal, state, and county service. He served as Regional Director, Region IX, of the Office of Economic Opportunity from 1969 to 1970, and was Deputy Assistant Director of Operations for the Office of Economic Opportunity from 1974 to 1976. From 1973 to 1974, Mr. Betts was Minority Counsel for the U.S. Senate Committee on Anti-Trust and Monopoly. He also served as a legislative aide to U.S. Senator Hiram Fong and was appointed by President Ronald Reagan as a member of the Native Hawaiian Study Commission in 1981.

In addition, he has been Assistant Attorney General for the State of Hawai'i and Finance Director and Corporation Counsel for the County of Maui. He is a practicing attorney in the State of Hawai'i.

#### Velma M. Santos, Deputy Director

Velma M. Santos has held a number of high-level executive positions and received a number of appointments to positions in the state and county governments of Hawai'i. Her first election to public office came in 1974, when she became a member of the House of Representatives of the Hawai'i State Legislature. From 1976 until 1982, Mrs. Santos served as Director of the Maui County Department of Human Concerns. She was elected as a member of the Maui County Council in 1982 and served in that position until January of 1991.

## Restoring a Cultural Treasure

Educated at the University of Michigan and the University of Hawai'i, Mrs. Santos was an elementary school teacher for 22 years.

### Momi Lovell Singson, Administrative Assistant

Momi Lovell Singson has held a variety of office management and executive positions with the State of Hawai'i, Department of the Attorney General, and with private law firms. Her experience includes work as a legal assistant, legal secretary and bookkeeper, and office manager for a court reporting firm.

Born in Tacoma, Washington, Ms. Singson has been a resident of Maui for 17 years. She received her formal education in Washington state and on Maui, and is currently certified in secretarial, accounting, and business education.

### Hardy Spoehr, Executive Assistant

Hardy Spoehr has been involved with Native Hawaiian issues since 1976, serving most recently as Administrator for the State Department of Hawaiian Home Lands. He has an extensive background in both the public and private sectors. Mr. Spoehr has worked for the Cook Islands Government, the City and County of Honolulu, the County of Hawai'i, and the State of Hawai'i, as well as for various nonprofit groups, including Alu Like, Inc. and The Nature Conservancy of Hawaii.

Raised in Hawai'i, Mr. Spoehr attended Wesleyan University and has a masters degree from the University of Hawai'i.

### Marie H. Via, Publishing/Graphic Artist

Marie H. Via has worked for three years as a paralegal in the conveyance field and two years as a legal secretary. She has performed desktop publishing and layout work for the past four years. Ms. Via was born and raised in Kailua, O'ahu, and is a graduate of Moloka'i High and Intermediate School.

### Legal Counsel

#### Joel E. August, Esq.

Joel E. August has been a Per Diem District Court Judge in the State of Hawai'i since 1982. He has also maintained a private law practice, specializing in medical malpractice and personal injury, for the past 14 years. Previously, Mr. August served as an attorney with the Legal Aid Society of Hawaii from 1971 to 1978, and was a Peace Corps volunteer in Ecuador from 1963 to 1965. In 1977, he received a National Endowment for Humanities Jurisprudence Fellowship from Cornell University.

Mr. August earned his undergraduate degree from Dartmouth College in 1963, and his J.D. from the University of California, Berkeley, School of Law in 1969.



# KAHO`OLAWE ISLAND:

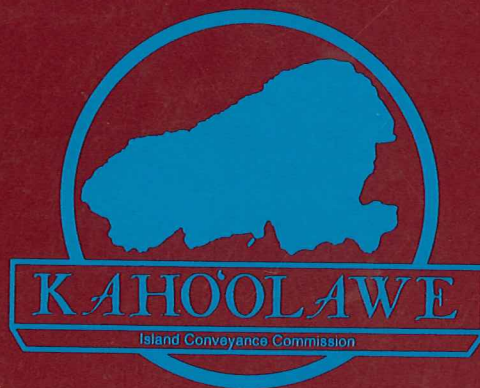


## Restoring a Cultural Treasure

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Final Report of the Kaho`olawe Island  
Conveyance Commission to the  
Congress of the United States





Kaho'olawe Island Conveyance Commission  
One Main Plaza, Suite 325  
2200 Main Street  
Wailuku, Maui, Hawaii 96793  
Telephone: (808) 242-7900 • Fax: (808) 242-5710